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1 Scope

The OCF Resource Type Specification specifies the Resources that have been defined by OCF that may be exposed by an OCF Device.

Application profile device specifications (for example those created for Smart Home or Healthcare) specify device types appropriate to the profile; such specifications use Resource Type definitions from this document.

This specification is built on top of the OCF Core Specification. The OCF Core Specification specifies the OCF Framework that enables the implementation of profiles for IoT usages and ecosystems. The OCF Core Framework is scalable to support simple devices (constrained device) and more capable devices (smart device).

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.


Latest version available at: https://openconnectivity.org/specs/OCF_Core_Specification.pdf


https://github.com/raml-org/raml-spec/blob/master/raml-0.8.md

ISO 8601:2004, *Data elements and interchange formats — information interchange — Representation of dates and times*.


3 Terms, definitions, symbols and abbreviations

3.1 Terms and definitions

3.1.1 Actuator

Resource with support of the UPDATE operation.

3.1.2 Composite Resource Type

A Resource Type defined as an OCF Collection of other Resource Types.

3.1.3 Sensor

Resource without support of the UPDATE operation.
3.2 Symbols and abbreviations

3.2.1 CRUDN
Create Retrieve Update Delete Notify
This is an acronym indicating which operations are possible on the Resource.

3.2.2 CSV
Comma Separated Value List
Comma Separated Value List is a construction to have more fields in 1 string separated by commas.
If a value contains a comma then the comma can be escaped by adding “\” in front of the comma.

3.2.3 OCF
Open Connectivity Foundation
OCF is the standards organization which created and owns this specification.

3.2.4 RAML
RESTful API modelling language
RAML is a simple and succinct way of describing RESTful APIs. See RAML for further details.

3.2.5 REST
Representational State Transfer
REST is an architecture style for designing networked applications and relies on a stateless, client-server, cacheable communications protocol.

3.2.6 TBD
To Be Determined

3.3 Conventions
In this specification a number of terms, conditions, mechanisms, sequences, parameters, events, states, or similar terms are printed with the first letter of each word in uppercase and the rest lowercase (e.g., Resource Type). Any lowercase uses of these words have the normal technical English meaning.

4 Document conventions and organization
This document lists all the Resource Types currently specified by OCF. The Resources are used by application profile device definitions. The Resource Types mentioned in this document can be used by any OCF conforming device in any OCF Collection or device representation.
For the purposes of this document, the terms and definitions given in OCF Core Specification apply.

4.1 Notation
In this document, features are described as required, recommended, allowed or DEPRECATED as follows:

Required (or shall or mandatory).

These basic features shall be implemented to comply with OCF Resource Type Specification.
The phrases "shall not", and “PROHIBITED” indicate behaviour that is prohibited, i.e. that if performed means the implementation is not in compliance.

Recommended (or should).
These features add functionality supported by the OCF Resource Type Specification and should be implemented. Recommended features take advantage of the capabilities of the OCF Resource Type Specification, usually without imposing major increase of complexity. Notice that for compliance testing, if a recommended feature is implemented, it shall meet the specified requirements to be in compliance with these guidelines. Some recommended features could become requirements in the future. The phrase “should not” indicates behaviour that is permitted but not recommended.

Allowed (or allowed).

These features are neither required nor recommended by OCF Resource Type Specification, but if the feature is implemented, it shall meet the specified requirements to be in compliance with these guidelines.

DEPRECATED

Although these features are still described in this specification, they should not be implemented except for backward compatibility. The occurrence of a deprecated feature during operation of an implementation compliant with the current specification has no effect on the implementation’s operation and does not produce any error conditions. Backward compatibility may require that a feature is implemented and functions as specified but it shall never be used by implementations compliant with this specification.

Conditionally allowed (CA)

The definition or behaviour depends on a condition. If the specified condition is met, then the definition or behaviour is allowed, otherwise it is not allowed.

Conditionally required (CR)

The definition or behaviour depends on a condition. If the specified condition is met, then the definition or behaviour is required. Otherwise the definition or behaviour is allowed as default unless specifically defined as not allowed.

Strings that are to be taken literally are enclosed in "double quotes".

Words that are emphasized are printed in italic.

4.2 Data types

This specification adopts the types defined in the OCF Core Specification with the exceptions defined in this Section.

All Properties in this specification that are defined as JSON number type shall be transmitted encoded as floating point values and not integer values. Reception of Properties defined as JSON number type shall be as defined in the OCF Core Specification. See OCF Core Specification Section 12.3 for specifics.

5 Baseline Model Constructs

5.1 URI

The URIs mentioned in this document are non-normative, they may be vendor defined.

An Instance of a Resource is indicated by the URI. When more than one instance of the same Resource Type is used in an OCF Device, different URIs for the different Resource instances shall be used.

An implementation shall follow the requirements defined in the OCF Core Specification with respect to population of the URI. Please refer to the OCF Core Specification Sections 6.2 and 6.3 for specific details.
5.2 Interfaces

The OCF Core Specification specifies that all Resource Types have associated with them at least one Interface; this Interface is advertised during Resource discovery. In addition the OCF Core Specification defines a number of Interfaces that can be applied to an instance of a Resource Type.

The Default Interface associated with all Resource Types defined in this specification shall be the supported interface listed first within the applicable enumeration in the definition of the Resource Type (see Section 6 Resource Type definitions); with an exception being when a Resource Type definition has either Sensor or Actuator interfaces as the Default Interface, in this instance an implementation shall select one of them as the default. Thus a Server hosting such a Resource Type shall enable either oic.if.s (if a Sensor) or oic.if.a (if an Actuator) as the Interface that is exposed via "/oic/res" in addition to the mandated baseline interface ("oic.if.baseline"). A Server may also support other Interfaces in addition to the one specified as the default.

The difference between using sensor/actuator and read/write interfaces is due to the fact that a sensor/actuator interface describes an action that has immediate effect on the device, either by reading the sensed value and putting the value on the wire, or as an UPDATE action that something needs to happen (e.g. actuate) on the device. The read/write interface is typically used to set a settings value on the device that might be used later when an action occurs. A typical example is setting the coffee strength that will be used when the coffee is brewed.

5.2.1 Restricting Interface Functionality

Note that the functionality associated with, or visibility of, an instance of any Resource exposed by a Device may be restricted depending upon local (per country or legislative region) regulatory requirements or other restrictions (e.g. with respect to Binary Switch in some jurisdictions the ability to remotely power on a connected device is restricted; a lock status could be read-only depending on the context).

The actual implementation of a resource can be limited by:

- Not implementing the optional properties defined in the payload of a CRUDN operation.
- Removing CRUDN operations

If an UPDATE operation of a resource that can be actuated is not implemented, this change in behaviour is indicated by changing the interfaces accordingly.

When the resource is defined with the interface "oic.if.a", and the UPDATE operation is removed then the interface listed is "oic.if.s".

When the resource is defined with the interface "oic.if.rw", and the UPDATE operation is removed then the interface listed is "oic.if.r".

5.3 RAML definition

The RAML definitions used in this document are normative. By extension all defined JSON payloads shall comply with the indicated JSON schema. Note that the defined schemas have extensions that include all OCF Core Specification defined (and mandated) Properties.

The RAML definitions are used to describe the payloads of the CRUDN operations on the specified Resource Type. The CRUDN operations are defined in the OCF Core Specification. The OCF Core Specification also specifies additional Properties in the payloads of the CRUDN operations. The RAML definitions in this document are not of themselves sufficient to create an implementation, additional Properties defined in the Core specification need to be added to create a compliant implementation. This specification makes use of a subset of the responses supported by RAML specifics on the use of these responses are defined in Table 4 Return codes behaviour in RAML.
Note that the actual values of success and error conditions are defined in the OCF Core Specification.

The RAML definitions map the OCF CRUDN behaviour to the RAML as defined in Table.

Table 1 Conversion between OCF CRUDN and RAML definitions

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Retrieve</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/example</td>
<td>post</td>
<td>get</td>
<td>post</td>
<td>delete</td>
<td></td>
</tr>
</tbody>
</table>

Notify is not part of an RAML definition but is defined in the Core specification. The semantics of a Notify are the same as the CRUDN Read value. All Resource Types defined in this specification support notification via the use of observe as defined in OCF Core Specification Section 11.4.2.

5.4 Property definition

5.4.1 Common Properties

The OCF Core Specification specifies a number of Properties that may be defined for OCF Resources. The Common Properties “if” and “rt” shall be specified for all Resource Types defined in this specification; they are exposed within the OCF Core Specification defined /oic/res/ Resource Type through which the OCF Server and its available Resources are discovered. The Common Properties “p” and “n” may be specified for all Resource Types defined in this specification.

If an OCF Client requires that these Properties be included in a Resource representation that is provided in response to a RETRIEVE operation then the client shall select the OCF Core Specification defined baseline interface (oic.if.baseline) by specifying this in a query parameter.

Table 2 Common Properties for OCF Resources

<table>
<thead>
<tr>
<th>Property Name</th>
<th>Property Title</th>
<th>Property Value</th>
<th>Value Type</th>
<th>Access Modes</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>if</td>
<td>Interface</td>
<td>See OCF Core Specification Section 7.6.2</td>
<td>Array of string</td>
<td>Readonly</td>
<td>Core defined; Interface(s) supported by the Resource</td>
</tr>
<tr>
<td>rt</td>
<td>Resource type</td>
<td>See OCF Core Specification Section 7.4</td>
<td>Array of string</td>
<td>Readonly</td>
<td>Core defined; Resource type. The Resource Types are defined in this document. See Section 6</td>
</tr>
<tr>
<td>n</td>
<td>Name</td>
<td>See OCF Core Specification Section 7.3.2.5</td>
<td>string</td>
<td>Readonly</td>
<td>Core defined; human understandable name for the Resource.</td>
</tr>
<tr>
<td>id</td>
<td>Resource Identity</td>
<td>See OCF Core Specification Section 7.3.2.6</td>
<td>string</td>
<td>Readonly</td>
<td>Core defined; Unique identifier of the Resource (over all Resources in the OCF device)</td>
</tr>
</tbody>
</table>

1 Please refer to OCF Core Specification Table 26 for detailed semantics around the appropriate use of CoAP request methods.
5.4.2 Resource Properties

The Properties against which the CRUDN operations are specified are defined with JSON schemas (see JSON SCHEMA).

A basic Resource Type is formulated around one single value denoting a physical property.

Such a Resource Type is specified with the Properties as defined Table 3. Mandatory in the table means that the Property shall be defined as part of the overall Resource Type schema; actual inclusion of the Property as part of a returned or generated payload is dependent upon the schema that applies to the operation being invoked.

Table 3 Property definitions of a Resource Type in the JSON schema

<table>
<thead>
<tr>
<th>Property Name</th>
<th>Friendly Alias Name</th>
<th>Property Value</th>
<th>Value Type</th>
<th>Value Rules</th>
<th>Access Modes</th>
<th>Mandatory</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;value&gt;,name may change dependent on the Resource</td>
<td></td>
<td>Dependent on the Resource</td>
<td>Dependent on the Resource</td>
<td>Dependent on the Resource</td>
<td>Dependent on the Resource</td>
<td>yes</td>
<td>The current value of the Resource</td>
</tr>
<tr>
<td>range</td>
<td>Range</td>
<td>[Min,Max]</td>
<td>array</td>
<td>Linear range</td>
<td>Read-only</td>
<td>no</td>
<td>Range of input values, specified as a two element array.</td>
</tr>
<tr>
<td>step</td>
<td>Step</td>
<td>Dependent on the Resource</td>
<td>Integer or Number</td>
<td>Dependent on the Resource</td>
<td>Read-only</td>
<td>no</td>
<td>Step value across the defined range</td>
</tr>
<tr>
<td>precision</td>
<td>Precision</td>
<td>Dependent on the Resource</td>
<td>Number</td>
<td>Dependent on the Resource</td>
<td>Read-only</td>
<td>no</td>
<td>Accuracy granularity of the exposed value</td>
</tr>
</tbody>
</table>

For Resources, which by their nature have more than one physical parameter, the value Property can be replaced with multiple Properties specifying the different physical parameters. The type of the value shall be indicated in the RAML definition of the Resource Type and should be suitable for the conveyed value. All Property Names and Property Values defined in this specification are case sensitive.

5.4.3 Basic Resource Schema

All Resource Types defined herein are represented as previously noted by JSON schemas. The RAML definitions of the Resource Types embed the Resource Type specific schema elements.
5.4.4 CRUDN Operation Response Codes

A Resource can be created or updated depending on the Resource Type definition and the allowed CRUDN operations. The operation may have different response codes with different meanings. This is explained in Table 4.

Table 4 Return codes behaviour in RAML

<table>
<thead>
<tr>
<th>Response Code</th>
<th>Meaning</th>
</tr>
</thead>
</table>
| 200           | Payload of the response will confirm the change.  
The RAML definition will contain a schema to define the payload. |
| 201           | Payload is the URL of the Resource that was created by the server as a result of a CREATE operation.  
The RAML definition will contain schema to define the payload. |
| 204           | Ok, everything went well, no payload provided.  
The RAML definition does not contain a schema.  
The RAML definition may even omit this value, since it is regarded as default behaviour of an OCF Server. |
| 403           | Case 1:  
In the case of a RETRIEVE on a Resource with the use of a query parameter selecting specific Property values; if the server does not support the values provided then this response should be returned.  
The response payload should include the allowed values for the query parameter.  
Case 2:  
The server could not CREATE or UPDATE the Resource due to a problem with the provided payload.  
For an UPDATE, unless otherwise stated in the Resource Type definition, the response payload should include the same schema defined for a 200; indicating the current Resource Property value(s). |

5.5 Example Resource Definitions

Please see the OCF Resource Types in Section 6 for examples of Resource Definitions. For an example Resource Type that models an actuator refer to Section Error! Reference source not found. Dimming; for an example Resource Type that models a sensor refer to Section Error! Reference source not found. Illuminance Sensor.

5.6 Observable Resource Types

The OCF Core Specification defines a mechanism by which Resources can advertise themselves as “Observable” to an OCF Client. All Resource Types defined in this specification may be
observed. Whether or not a Resource Type is made observable via use of the Policy Link Parameter is entirely implementation dependent.

5.6.1 Conditional Notification

All observable Resources may apply conditions to the generation of notifications that result from the observe action, these conditions can be time based or value based or time and value based. This is achieved by composing the Conditional Notification (oic.r.value.conditional) Resource Type with an instance of an observable Resource; that is the Resource that is exposed by the Server has an "rt" of "["oic.r.<resource>","oic.r.value.conditional"]".

5.6.1.1 Conditional Notification Property Summary

Table 5 Conditional Notification Properties summarizes the Properties provided by the Conditional Notification Resource Type. At least one Property from the table shall be present in an instance of the Resource Type.

Table 5 Conditional Notification Properties

<table>
<thead>
<tr>
<th>Name</th>
<th>Type</th>
<th>R/W</th>
<th>Required</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>threshold</td>
<td>number</td>
<td>RW</td>
<td>No</td>
<td>Amount by which the observed value changes before a notification is generated</td>
</tr>
<tr>
<td>minnotifyperiod</td>
<td>integer</td>
<td>RW</td>
<td>No</td>
<td>Minimum elapsed time in ms before a notification may be sent</td>
</tr>
<tr>
<td>maxnotifyperiod</td>
<td>integer</td>
<td>RW</td>
<td>No</td>
<td>Maximum elapsed time in ms after which a notification is sent</td>
</tr>
</tbody>
</table>

All Properties if exposed shall be set with initial values. All Properties may be exposed with a value of “0” (zero); this indicates that the functionality associated with the Property is not active. Any Client may update the exposed values subject to any ACL restrictions; such changes are global and apply to all notifications that are sent to all observers. A notifier may reject an update to the Property values; in such cases a diagnostic payload should be included in the rejection response indicating the valid ranges for the Properties.

5.6.1.2 Property Definition: threshold

Minimum value change between two notifications. A notification shall be sent (within the constraints of "minnotifyperiod") when the change since the last notification is greater than or equal to this value. The measurement is done against the value in the last notification that was sent; thus all notifications (within any "maxnotifyperiod" constraints that may be present) will carry values that differ by at least “threshold”. A “threshold” value of “0” means that no “threshold” is applied.

5.6.1.3 Property Definition: minnotifyperiod

Minimum time (in ms) that shall occur between notifications. If a value change condition is met ("threshold" equalled or exceeded or any change in value if threshold is not present) before expiration the notification shall not be sent till the period expires. If the Property is present and set to “0”, then no minimum notify period timer is run; if the Property is present and with a value greater than “0”, then a minimum notify period timer shall be run equal to the value. The Property value itself is initially populated by the notifier. If the Property is not present the minimum notify period is up to the notifier. The timer shall be reset each time a notification is sent.

5.6.1.4 Property Definition: maxnotifyperiod

Maximum time (in ms) that the notifier shall not exceed between notifications. When the timer expires a notification shall be sent. If present and set to “0” then no maximum notify period timer is run; if present and with a value greater than 0 then a maximum notify period timer shall be run.
equal to the value. The Property value itself shall be initially populated by the notifier. When both “minnotifyperiod” and “maxnotifyperiod” are present and both are non-zero the value of “maxnotifyperiod” shall be larger than the “minnotifyperiod”. If not present the value shall be set by the notifier. The timer shall be reset each time a notification is sent.

5.6.1.5 Governing State Machine

The “minnotifyperiod” and “maxnotifyperiod” timers are restarted each time a notification is sent (response to the Observe). A notification is sent when value change condition (threshold) and “minnotifyperiod” are both met if both are present. If the observed Property value subsequently drops beneath threshold before the expiration of “minnotifyperiod” the notifier may take no action or a notification may be sent on expiration of “minnotifyperiod” containing the current observed Property value (at the time of the notification). If there are no timer constraints; then notifications are sent whenever the observed Property value has changed by an amount greater than or equal to “threshold”.

Overall logic is defined in Figure 1: Overall conditional notification logic. Figure 2: Conditional Notification Example Flow provides an illustrative sequence.

<table>
<thead>
<tr>
<th>If minnotifyperiod expired:</th>
</tr>
</thead>
<tbody>
<tr>
<td>If observed value changed:</td>
</tr>
<tr>
<td>If change amount &gt;= threshold:</td>
</tr>
<tr>
<td>Send notification with current value</td>
</tr>
<tr>
<td>Reset minnotifyperiod , maxnotifyperiod</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>If maxnotifyperiod expired:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Get current value</td>
</tr>
<tr>
<td>Send notification with current value</td>
</tr>
<tr>
<td>Reset minnotifyperiod , maxnotifyperiod</td>
</tr>
</tbody>
</table>

Figure 1: Overall conditional notification logic
5.7 Composite Resource Types

Composite Resource Types are Resources that comprises of one or more single or other composite Resource Types, an example of which is shown in Table 6 RAML example of Composite Resource Type. The Composite Resource Type can be viewed upon as a new single Resource Type. The Composite Resource Type mechanism is a powerful concept since it uses existing Resource Types in a new combination to express more contexts to a Resource without specifying new single unit Resource Types.

Composite Resource Types are defined by linking the referenced existing Resource values in to a Collection.
The linking is done by using an array of Links; refer to the OCF Core Specification section 7.8.2 for more details. Note that the example listed below contains a partial schema of this definition as it is for descriptive purpose only. The Property name of the array is "links". The relationship type shall be "contains", denoting that the composite contains other Resource Types that make up the Composite Resource Type.

The access to the listed Resources can be achieved in a single operation by using the OCF Core Specification defined oic.if.ll interface.

Table 6 RAML example of Composite Resource

```raml
#%RAML 0.8

title: OCFExampleCompositeResource
version: v1.0

/CompositeExample:

description: |
  CompositeExample description.
If the CompositeExample is implemented as per the example RAML the following values apply:
The name of the Resource is "CompositeExample Name"
The Resource Type is "oic.r.compositeexample"
The Interface (if) can denote Sensor or Actuator
The value of the ActuatorExample is modeled as 2 references to other implemented Resources
In the example oic.r.SensorExample and oic.r.ActuatorExample are used.

get:

description: |
  retrieves the composite example Resource.

responses:
  200:
    body:
      application/json:
        schema: |
          {
            "id": "http://openinterconnect.org/schemas/oic.r.baseResource#",
            "$schema": "http://json-schema.org/schema#",
            "title": "SensorExample",
            "definitions": {
              "oic.r.compositeexample": {
                "type": "object",
                "properties": {
                  "links": {
                    "type": "array",
                    "items": {
                      "$ref": "oic.oic-link-schema.json#"
                    }
                  }
                }
              }
            },
            "type": "object",
            "allOf": [
              {"$ref": "oic.core.json#/definitions/oic.core"},
              {"$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},
              {"$ref": "#/definitions/oic.r.compositeexample"}
            ],
            "required": ["n","id","links"]
          }
        example: |
```
5.8 Specification Version

Devices conformant to this specification version shall add the string “ocf.res.1.3.0” to the dmv Property in oic.wk.d.

6 Resource Type definitions

This section contains definitions for all Resource Types; the complete set is listed in Table 7 Alphabetical list of Resource Types. Annex A.1 provides the basic underlying schema definition against which all other Resource Types are constructed. Annex A.1 also provides an example of the use of the “oic.if.baseline” interface that all Resource Types shall support. All other sections provide example representations of the Resource Type following the application of the default interface that is applied for that specific Resource Type.

All Resource Types shall be created in accordance with the OCF Core Specification Section 7.2. All comparisons against a Resource Type shall be case insensitive.

All Resource Types in this document are prefixed with “oic.r” denoting that it is an OCF defined Resource Type.

<table>
<thead>
<tr>
<th>Friendly (informative)</th>
<th>Name</th>
<th>Resource Type (rt)</th>
<th>Section</th>
</tr>
</thead>
<tbody>
<tr>
<td>3D Printer</td>
<td>oic.r.printer.3d</td>
<td>6.87</td>
<td></td>
</tr>
<tr>
<td>Acceleration Sensor</td>
<td>oic.r.sensor.acceleration</td>
<td>6.55</td>
<td></td>
</tr>
<tr>
<td>Activity Count</td>
<td>oic.r.sensor.activity.count</td>
<td>6.23</td>
<td></td>
</tr>
<tr>
<td>Air Quality</td>
<td>oic.r.airquality</td>
<td>6.65</td>
<td></td>
</tr>
<tr>
<td>Air Quality Collection</td>
<td>oic.r.airqualitycollection</td>
<td>6.66</td>
<td></td>
</tr>
<tr>
<td>Resource</td>
<td>URI</td>
<td>Section</td>
<td></td>
</tr>
<tr>
<td>--------------------------</td>
<td>----------------------------------</td>
<td>---------</td>
<td></td>
</tr>
<tr>
<td>Altimeter</td>
<td>oic.r.altimeter</td>
<td>6.60</td>
<td></td>
</tr>
<tr>
<td>Atmospheric Pressure</td>
<td>oic.r.sensor.atmosphericpressure</td>
<td>6.24</td>
<td></td>
</tr>
<tr>
<td>Air Flow</td>
<td>oic.r.airflow</td>
<td>6.1</td>
<td></td>
</tr>
<tr>
<td>Air Flow Control</td>
<td>oic.r.airflowcontrol</td>
<td>6.2</td>
<td></td>
</tr>
<tr>
<td>Audio Controls</td>
<td>oic.r.audio</td>
<td>6.25</td>
<td></td>
</tr>
<tr>
<td>Auto Focus</td>
<td>oic.r.autofocus</td>
<td>6.26</td>
<td></td>
</tr>
<tr>
<td>Automatic Document Feeder</td>
<td>oic.r.automaticdocumentfeeder</td>
<td>6.27</td>
<td></td>
</tr>
<tr>
<td>Auto White Balance</td>
<td>oic.r.colour.autowhitebalance</td>
<td>6.31</td>
<td></td>
</tr>
<tr>
<td>Basic Resource Schema</td>
<td>Not Applicable</td>
<td>Annex A.1</td>
<td></td>
</tr>
<tr>
<td>Battery</td>
<td>oic.r.energy.battery</td>
<td>6.3</td>
<td></td>
</tr>
<tr>
<td>Battery Material</td>
<td>oic.r.batterymaterial</td>
<td>6.78</td>
<td></td>
</tr>
<tr>
<td>Binary switch</td>
<td>oic.r.switch.binary</td>
<td>6.4</td>
<td></td>
</tr>
<tr>
<td>Blood Pressure</td>
<td>oic.r.blood.pressure</td>
<td>6.88</td>
<td></td>
</tr>
<tr>
<td>Blood Pressure Monitor</td>
<td>oic.r.bloodpressuremonitor-am</td>
<td>6.89</td>
<td></td>
</tr>
<tr>
<td>Atomic Measurement</td>
<td>oic.r.bloodpressuremonitor-am</td>
<td>6.89</td>
<td></td>
</tr>
<tr>
<td>BMI</td>
<td>oic.r.bmi</td>
<td>6.90</td>
<td></td>
</tr>
<tr>
<td>Body Fat</td>
<td>oic.r.body.fat</td>
<td>6.91</td>
<td></td>
</tr>
<tr>
<td>Body Fat Free Mass</td>
<td>oic.r.body.ffm</td>
<td>6.92</td>
<td></td>
</tr>
<tr>
<td>Body Location</td>
<td>oic.r.body.location</td>
<td>6.93</td>
<td></td>
</tr>
<tr>
<td>Body Temperature Location</td>
<td>oic.r.body.location.temperature</td>
<td>6.94</td>
<td></td>
</tr>
<tr>
<td>Atomic Measurement</td>
<td>oic.r.body.scale-am</td>
<td>6.95</td>
<td></td>
</tr>
<tr>
<td>Body Soft Lean Mass</td>
<td>oic.r.body.slm</td>
<td>6.96</td>
<td></td>
</tr>
<tr>
<td>Device Name</td>
<td>Namespace</td>
<td>Value</td>
<td></td>
</tr>
<tr>
<td>-------------------------------------------</td>
<td>------------------------------------------------</td>
<td>-------</td>
<td></td>
</tr>
<tr>
<td>Body Thermometer Atomic Measurement</td>
<td>oic.r.bodythermometer-am</td>
<td>6.97</td>
<td></td>
</tr>
<tr>
<td>Body Water</td>
<td>oic.r.body.water</td>
<td>6.98</td>
<td></td>
</tr>
<tr>
<td>Brewing</td>
<td>oic.r.brewing</td>
<td>6.79</td>
<td></td>
</tr>
<tr>
<td>Brightness</td>
<td>oic.r.light.brightness</td>
<td>6.5</td>
<td></td>
</tr>
<tr>
<td>Button Switch</td>
<td>oic.r.button</td>
<td>6.28</td>
<td></td>
</tr>
<tr>
<td>Carbon Dioxide Sensor</td>
<td>oic.r.sensor.carbondioxide</td>
<td>6.29</td>
<td></td>
</tr>
<tr>
<td>Carbon Monoxide Sensor</td>
<td>oic.r.sensor.carbonmonoxide</td>
<td>6.30</td>
<td></td>
</tr>
<tr>
<td>Clock</td>
<td>oic.r.clock</td>
<td>6.61</td>
<td></td>
</tr>
<tr>
<td>Colour Chroma</td>
<td>oic.r.colour.chroma</td>
<td>6.6</td>
<td></td>
</tr>
<tr>
<td>Colour Hue Saturation</td>
<td>oic.r.colour.hs</td>
<td>6.77</td>
<td></td>
</tr>
<tr>
<td>Colour RGB</td>
<td>oic.r.colour.rgb</td>
<td>6.7</td>
<td></td>
</tr>
<tr>
<td>Colour Saturation</td>
<td>oic.r.colour.saturation</td>
<td>6.32</td>
<td></td>
</tr>
<tr>
<td>Colour Space Coordinates</td>
<td>oic.r.colour.csc</td>
<td>6.75</td>
<td></td>
</tr>
<tr>
<td>Colour Temperature</td>
<td>oic.r.colour.colourtemperature</td>
<td>6.76</td>
<td></td>
</tr>
<tr>
<td>Consumable</td>
<td>oic.r.consumable</td>
<td>6.67</td>
<td></td>
</tr>
<tr>
<td>Consumable Collection</td>
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<td>Contact Sensor</td>
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<td>Delay Defrost</td>
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<td>Demand Response Load Control (DRLC)</td>
<td>oic.r.energy.drlc</td>
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<td>Dimming</td>
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<td>Door</td>
<td>oic.r.door</td>
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<td>Ecomode</td>
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<td>Electric Vehicle Connector</td>
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<td>Electrical Energy</td>
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<td>Energy Consumption</td>
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<td>Energy Generation</td>
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<td>Energy Overload/Circuit Breaker</td>
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<td>Energy Usage</td>
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<td>Foaming</td>
<td>oic.r.foaming</td>
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<tr>
<td>Generic Sensor</td>
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<td>Geolocation Sensor</td>
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<td>Glucose</td>
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<td>Glucose Meter Exercise</td>
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<td>Glucose Meter HbA1c</td>
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<td>Glucose Meter Context Meal</td>
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<td>Glucose Meter</td>
<td>oic.r.glucose.medication</td>
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<td>Glucose Meter Atomic Measurement</td>
<td>oic.r.glucosemeter-am</td>
<td>6.106</td>
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<td>Glucose Meter Context Sample Location</td>
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<td>Glucose Meter Context Tester</td>
<td>oic.r.glucose.test</td>
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<td><strong>Heating Zone Collection</strong></td>
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<td>oic.r.liquid.level</td>
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<td><strong>Lock</strong></td>
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<td><strong>Movement</strong></td>
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<td><strong>Motion Sensor</strong></td>
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<td><strong>Night Mode</strong></td>
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<td><strong>Open Level</strong></td>
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<td><strong>Operational State</strong></td>
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<td><strong>Optical RFID Station</strong></td>
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<tr>
<td><strong>Optical RFID Tag</strong></td>
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<td>Feature</td>
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<td>Pan Tilt Zoom Movement</td>
<td>oic.r.ptz</td>
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<td>Power Source</td>
<td>oic.r.powersource</td>
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<td>Presence Sensor</td>
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<td>Print Queue</td>
<td>oic.r.printer.queue</td>
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<td>Pulse Rate</td>
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<td>Ramp Time</td>
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<td>Refrigeration</td>
<td>oic.r.refrigeration</td>
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<td>Selectable Levels</td>
<td>oic.r.selectablelevels</td>
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<td>Sensor Properties</td>
<td>oic.r.sensor.props</td>
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<tr>
<td>Signal Strength</td>
<td>oic.r.signalstrength</td>
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<tr>
<td>Sleep Sensor</td>
<td>oic.r.sensor.sleep</td>
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<td>Smoke Sensor</td>
<td>oic.r.sensor.smoke</td>
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<td>Speech Synthesis</td>
<td>oic.r.speech.tts</td>
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<td>Temperature</td>
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<td>Three Axis Sensor</td>
<td>oic.r.sensor.threeaxis</td>
<td>6.59</td>
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<tr>
<td>Time Period</td>
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<tr>
<td>Time Stamp</td>
<td>oic.r.time.stamp</td>
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<tr>
<td>Touch Sensor</td>
<td>oic.r.sensor.touch</td>
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<tr>
<td>UV Radiation</td>
<td>oic.r.sensor.radiation.uv</td>
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<td>User ID</td>
<td>oic.r.userid</td>
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<tr>
<td>Value Conditional</td>
<td>oic.r.value.conditional</td>
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<tr>
<td>Water Sensor</td>
<td>oic.r.sensor.water</td>
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<td></td>
</tr>
<tr>
<td>Weight</td>
<td>oic.r.weight</td>
<td>6.64</td>
<td></td>
</tr>
</tbody>
</table>
6.1 Air Flow

6.1.1 Introduction

This resource describes the properties associated with air flow. The supported directions is the set of valid values for the direction property for a particular instance of this resource type. The direction is the directionality of the air flow if applicable, if supported directions is also present it must be a value from that set. Direction values are dependent on the capabilities of the unit. The speed is an integer representing the current speed level for the unit. The range (from oic.r.baseresource) is an array of the min, max values for the speed level. If not present the range defaults to [0, 100].

6.1.2 Example URI

/AirFlowResURI

6.1.3 Resource Type

The resource type (rt) is defined as: oic.r.airflow.

6.1.4 RAML Definition

```raml
#%RAML 0.8

title: OICAirFlow

version: v1.1.0-20160519

traits:
  - interface:

    queryParameters:
      if:
        enum: ["oic.if.a", "oic.if.baseline"]

/AirFlowResURI:

description: |
  This resource describes the properties associated with air flow.
  The supported directions is the set of valid values for the direction property for a particular instance of this resource type.
  The direction is the directionality of the air flow if applicable, if supported directions is also present it must be a value from that set.
  Direction values are dependent on the capabilities of the unit.
  The speed is an integer representing the current speed level for the unit.
  The range (from oic.r.baseresource) is an array of the min, max values for the speed level
  If not present the range defaults to [0, 100].
  automode is the status of the automode feature; Off means automode is not enabled, On means automode is active and the speed is automatically controlled by the device.

is: ['interface']

get:

description: |
  Retrieves the current air flow values.

responses:
  200:
    body:
      application/json:
        schema: |

        
        "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.airFlow.json#",
        "$schema": "http://json-schema.org/draft-04/schema#",
        "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All rights reserved.

        
        "title": "Air Flow",
        "definitions": |
```
"oic.r.airflow": {
  "type": "object",
  "properties": {
    "supporteddirections": {
      "type": "array",
      "description": "Array of possible direction settings for this instance of the Resource Type",
      "readOnly": true,
      "items": {
        "type": "string",
        "minItems": 1,
        "uniqueItems": true
      }
    },
    "direction": {
      "type": "string",
      "description": "Directionality of the air flow"
    },
    "speed": {
      "type": "integer",
      "description": "Current speed level"
    },
    "automode": {
      "type": "string",
      "enum": ["On", "Off"],
      "description": "Status of the automode feature, if on speed is set by the device"
    }
  }
},
"type": "object",
"allOf": [
  {"$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},
  {"$ref": "#/definitions/oic.r.airflow"}
],
"required": ["speed"]
}

example: |
{
  "rt": ["oic.r.airflow"],
  "id": "unique_example_id",
  "supporteddirections": ["left", "right", "centre"],
  "direction": "left",
  "speed": 5,
  "range": [1, 7],
  "automode": "Off"
}

post: 
Sets the current air flow values.
Only direction and speed may be set by an update operation.

body: 
application/json:
schema: |
  
  {"id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.airFlow.json#",
   "$schema": "http://json-schema.org/draft-04/schema#",
   "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All rights reserved."},
  
  "title": "Air Flow",
  "definitions": {
    "oic.r.airflow": {
      "type": "object",
      "properties": {
"type": "array",
      "description": "Array of possible direction settings for this instance of the Resource Type",
      "readOnly": true,
      "items": {
        "type": "string",
        "minItems": 1,
        "uniqueItems": true
      }
    },
    "direction": {
      "type": "string",
      "description": "Directionality of the air flow"
    },
    "speed": {
      "type": "integer",
      "description": "Current speed level"
    },
    "automode": {
      "type": "string",
      "enum": ["On", "Off"],
      "description": "Status of the automode feature, if on speed is set by the device"
    }
  }
},
"allOf": [
  {"$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},
  {"$ref": "#/definitions/oic.r.airflow"}
],
"required": ["speed"]
}
"properties": {
  "supporteddirections": {
    "type": "array",
    "description": "Array of possible direction settings for this instance of the Resource Type",
    "readOnly": true,
    "items": {
      "type": "string",
      "minItems": 1,
      "uniqueItems": true
    }
  },
  "direction": {
    "type": "string",
    "description": "Directionality of the air flow"
  },
  "speed": {
    "type": "integer",
    "description": "Current speed level"
  },
  "automode": {
    "type": "string",
    "enum": ["On", "Off"],
    "description": "Status of the automode feature, if on speed is set by the device"
  }
},
"allOf": [
  {"$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},
  {"$ref": "oic.r.airflow"}
],
"required": ["speed"]
}

example: |
{
  "id": "unique_example_id",
  "direction": "right",
  "speed": 3
}

responses:
  200:
    body:
      application/json:
        schema: |
          {
            "$id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.airFlow.json#",
            "$schema": "http://json-schema.org/draft-04/schema#",
            "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All rights reserved.",
            "title": "Air Flow",
            "definitions": {
              "oic.r.airflow": {
                "type": "object",
                "properties": {
                  "supporteddirections": {
                    "type": "array",
                    "description": "Array of possible direction settings for this instance of the Resource Type",
                    "readOnly": true,
                    "items": {
                      "type": "string",
                      "minItems": 1,
                      "uniqueItems": true
                    }
                  }
                }
              }
            }
          }
"uniqueItems": true

"direction": {
    "type": "string",
    "description": "Directionality of the air flow"
},

"speed": {
    "type": "integer",
    "description": "Current speed level"
},

"automode": {
    "type": "string",
    "enum": ["On", "Off"],
    "description": "Status of the automode feature, if on speed is set by the device"
}

example:
{
    "id": "unique_example_id",
    "direction": "right",
    "speed": 3
}

403:

description: |
This response is generated by the OCF Server when the client sends:
An update with an invalid property value for direction.
An update with an out of range property value for speed.
The server may respond with the current resource representation.

body:
application/json:

    schema: |

    "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.airFlow.json#",
    "$schema": "http://json-schema.org/draft-04/schema#",
    "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All rights reserved.",
    "title": "Air Flow",
    "definitions": {
        "oic.r.airflow": {
            "type": "object",
            "properties": {
                "supporteddirections": {
                    "type": "array",
                    "description": "Array of possible direction settings for this instance of the Resource Type",
                    "readOnly": true,
                    "items": {
                        "type": "string",
                        "minItems": 1,
                        "uniqueItems": true
                    }
                },
                "direction": {
                    "type": "string",
                    "enum": ["On", "Off"]
                }
            },
            "required": ["speed"]
        }
    }
"type": "string",
"description": "Directionality of the air flow"
},
"speed": {
"type": "integer",
"description": "Current speed level"
},
"automode": {
"type": "string",
"enum": ["On", "Off"],
"description": "Status of the automode feature, if on speed is set by the
device"
}

example:
{
"id": "unique_example_id",
"supporteddirections": ["left","right","centre"],
"direction": "right",
"speed": 3
}

### 6.1.5 Property Definition

Table 8 Air Flow Property Definitions

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>automode</td>
<td>string</td>
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<td></td>
<td>Status of the automode feature, if on speed is set by the device</td>
</tr>
<tr>
<td>direction</td>
<td>string</td>
<td></td>
<td></td>
<td>Directionality of the air flow</td>
</tr>
<tr>
<td>supporteddirections</td>
<td>array: see schema</td>
<td>Read Only</td>
<td></td>
<td>Array of possible direction settings for this instance of the Resource Type</td>
</tr>
<tr>
<td>speed</td>
<td>integer</td>
<td>yes</td>
<td></td>
<td>Current speed level</td>
</tr>
</tbody>
</table>

### 6.1.6 CRUDN behaviour

Table 9 Air Flow CRUDN operations

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<td>get</td>
<td>post</td>
<td></td>
<td></td>
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</tr>
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</table>
6.2 Air Flow Control

6.2.1 Introduction

This resource describes the attributes associated with control of air flow, for example as modelled by a Thermostat (fan), Room A/C or other device. The resource is a composite resource being made up as a collection of: AirFlow Resource  BinarySwitch Resource

6.2.2 Example URI

/AirFlowControlResURI

6.2.3 Resource Type

The resource type (rt) is defined as: oic.r.airflowcontrol.

6.2.4 RAML Definition

```raml
#%RAML 0.8

title: OICAirFlowControl
version: v1.1.0-20160519

traits:
  - interface-b :
    queryParameters:
      if:
        enum: ["oic.if.b"]
  - interface-all :
    queryParameters:
      if:
        enum: ["oic.if.ll", "oic.if.b", "oic.if.baseline"]

/AirFlowControlResURI:

description: |
  This resource describes the attributes associated with control of air flow, for example as modelled by a Thermostat (fan), Room A/C or other device.
  The resource is a composite resource being made up as a collection of:
  AirFlow Resource
  BinarySwitch Resource

get:
  description: |
    Retrieves the current air flow control values.

  is : ['interface-all']

  responses :
    200:

  body:
    application/json:
      schema: |
      {
        "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.airFlowControl.json#",
        "$schema": "http://json-schema.org/draft-04/schema#",
        "description" : "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All rights reserved.",
        "title": "Air Flow Control",
        "definitions": {
          "oic.r.airflowcontrol": {
            "type": "object",
            "properties": {
              "airFlowControl": {
                "type": "array",
                "minItems": 2,
            
```
"maxItems": 2,
"items": {
  "$ref": "oic.oic-link-schema.json#/definitions/oic.oic-link"
}
}
}
),
"type": "object",
"allOf": [
{ "$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},
{ "$ref": "#/definitions/oic.r.airflowcontrol"}
],
"required": ["airFlowControl"]
}

example:

{
  "rt": ["oic.r.airflowcontrol"],
  "id": "unique_example_id",
  "airFlowControl": [{
    "href": "/BinarySwitchResURI",
    "rel": "contains",
    "rt": ["oic.r.switch.binary"],
    "if": ["oic.if.a"],
    "eps": ["{ep": "coaps://[fe80::b1d6]:1122"]
  },
  {
    "href": "/AirFlowResURI",
    "rel": "contains",
    "rt": ["oic.r.airflow"],
    "if": ["oic.if.a"],
    "eps": ["{ep": "coaps://[fe80::b1d6]:1122"]
  }
}]

post:

description: |
  Sets the current air flow control values using the batch interface

  is : ["interface-b"]

  body:
  application/json:
    schema: |
      |
        
        "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.airFlowControl-Batch.json#",
        "$schema": "http://json-schema.org/draft-04/schema#",
        "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All rights reserved.",
        "title": "Air Flow Control",
        "definitions": {
          "oic.r.airflowcontrol": {
            "type": "object",
            "properties": {
              "airFlowControl": {
                "type": "array",
                "items": {
                  "anyOf": [
                    "$ref": "oic.r.switch.binary.json#/definitions/oic.r.switch.binary"],
                    "$ref": "oic.r.airflow.json#/definitions/oic.r.airflow"
                  ]
                }
              }
            }
          }
        }
    
"type": "object",
"allOf": [
  {"$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},
  {"$ref": "#/definitions/oic.r.airflowcontrol"}
],
"required": ["airFlowControl"]
}

example: |
{
  "id": "unique_example_id",
  "airFlowControl": [
    {"id": "unique_example_id",
     "value": true
    },
    {"id": "unique_example_id",
     "direction": "right",
     "speed": 3
    }
  ]
}

responses:
200:
  body: application/json:
    schema: |
      {
        "$schema": "http://json-schema.org/draft-04/schema#",
        "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All rights reserved.",
        "title": "Air Flow Control",
        "definitions": {
          "oic.r.airflowcontrol": {
            "type": "object",
            "properties": {
              "airFlowControl": {
                "type": "array",
                "items": {
                  "anyOf": [
                    {"$ref": "oic.r.switch.binary.json#/definitions/oic.r.switch.binary"},
                    {"$ref": "oic.r.airFlow.json#/definitions/oic.r.airflow"}
                  ]
                }
              }
            }
          }
        }
      }

example: |
{
  "id": "unique_example_id",
  "airFlowControl": [

```json
{
    "id": "unique_example_id",
    "value": true
}
{
    "id": "unique_example_id",
    "direction": "right",
    "speed": 3
}
}
```

403:

description: |
This response is generated by the OIC Server when the client sends:
An update with an invalid property value for direction.
An update with an out of range property value for speed.
The server responds with the current resource representation.

body:
application/json:
schema: |
{
    "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.airFlowControlBatch.json#",
    "$schema": "http://json-schema.org/draft-04/schema#",
    "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All rights reserved.",
    "title": "Air Flow Control",
    "definitions": {
        "oic.r.airflowcontrol": {
            "type": "object",
            "properties": {
                "airFlowControl": {
                    "type": "array",
                    "items": [
                        {
                            "$ref": "oic.r.switch.binary.json#/definitions/oic.r.switch.binary"},
                        {
                            "$ref": "oic.r.airFlow.json#/definitions/oic.r.airflow"}
                    ]
                }
            }
        }
    },
    "type": "object",
    "allOf": [
        {
            "$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},
        {
            "$ref": "#/definitions/oic.r.airflowcontrol"}
    ],
    "required": ["airFlowControl"]
}

element: |
{
    "id": "unique_example_id",
    "airFlowControl": [
    {
        "id": "unique_example_id",
        "value": true
    },
    {
        "id": "unique_example_id",
        "direction": "right",
        "speed": 3
    }
    ]
}
6.2.5 Property Definition

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>airFlowControl</td>
<td>array: see schema</td>
<td>yes</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

6.2.6 CRUDN behaviour

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/AirFlowControlResURI</td>
<td>get</td>
<td>post</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

6.3 Battery

6.3.1 Introduction

This resource describes the attributes associated with a battery. The charge is an integer showing the current battery charge level as a percentage in the range 0 (fully discharged) to 100 (fully charged). The capacity represents the total capacity of battery in Amp Hours (Ah). The charging status and discharging status are represented by boolean values set to "True" indicating enabled and "False" indicating disabled. Low battery status is represented by a boolean value set to "True" indicating low charge level and "False" indicating otherwise, based upon the battery threshold represented as a percentage.

6.3.2 Example URI

/BatteryResURI

6.3.3 Resource Type

The resource type (rt) is defined as: oic.r.energy.battery.

6.3.4 RAML Definition

```yaml
#%RAML 0.8

title: Battery
version: v1.2.0-20170814
traits:
  - interface:
    queryParameters:
      if:
        enum: ["oic.if.rw", "oic.if.baseline"]

/BatteryResURI:
  description: |
    This resource describes the attributes associated with a battery
    The charge is an integer showing the current battery charge level as a percentage in the range 0 (fully discharged) to 100 (fully charged)
    The capacity represents the total capacity of battery in Amp Hours (Ah)
    The charging status and discharging status are represented by boolean values set to "True" indicating enabled and "False" indicating disabled
    Low battery status is represented by a boolean value set to "True" indicating low charge level and "False" indicating otherwise, based upon the battery threshold represented as a percentage.
    is: ['interface']

  get:
    description: |
    Retrieves the state of the battery.
```


responses:
200:
  body:
    application/json:
      schema: |
      |
      
      "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.energy.battery.json#",
      "$schema": "http://json-schema.org/draft-04/schema#",
      "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All
      rights reserved.",
      "title": "Battery",
      "definitions": {
        "oic.r.energy.battery": {
          "type": "object",
          "properties": {
            "charge": {
              "type": "integer",
              "description": "The current charge percentage.",
              "readOnly": true,
              "minimum": 0,
              "maximum": 100
            },
            "capacity": {
              "type": "number",
              "description": "The total capacity in Amp-hours (Ah).",
              "readOnly": true,
            },
            "charging": {
              "type": "boolean",
              "description": "The status of charging.",
              "readOnly": true,
            },
            "discharging": {
              "type": "boolean",
              "description": "The status of discharging.",
              "readOnly": true,
            },
            "lowbattery": {
              "type": "boolean",
              "description": "The status of the low battery warning based upon the
              defined threshold.",
              "readOnly": true,
            },
            "batterythreshold": {
              "type": "integer",
              "description": "The threshold percentage for the low battery warning.",
              "minimum": 0,
              "maximum": 100
            }
          }
        }
      }
      
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      |
      |
"discharging": false,
"lowbattery": false,
"batterythreshold": 20
}

post:

description: |
Sets current battery values

body:
application/json:
schema: |

{
"id": "http://openinterconnect/iotdatamodels/schemas/oic.r.energy.battery-
Update.json#",
"$schema": "http://json-schema.org/draft-04/schema#",
"description": "Copyright (c) 2017 Open Connectivity Foundation, Inc. All rights
reserved.",
"title": "Battery",
"definitions": {
"oic.r.energy.battery": {
"type": "object",
"properties": {
"batterythreshold" : {
"type": "integer",
"description": "The threshold percentage for the low battery warning.",
"minimum": 0,
"maximum": 100
}
}
}
,"type": "object",
"allOf": [
{"$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},
{"$ref": "#/definitions/oic.r.energy.battery"}
],
"required": [ "batterythreshold" ]
}

example: |

{
"id": "unique_example_id",
"batterythreshold": 20
}

responses :
200:

body:
application/json:
schema: |

{
"id": "http://openinterconnect/iotdatamodels/schemas/oic.r.energy.battery-
Update.json#",
"$schema": "http://json-schema.org/draft-04/schema#",
"description": "Copyright (c) 2017 Open Connectivity Foundation, Inc. All rights
reserved.",
"title": "Battery",
"definitions": {
"oic.r.energy.battery": {
"type": "object",
"properties": {
"batterythreshold" : {
"type": "integer",
"minimum": 0,
"maximum": 100
}
}
"description": "The threshold percentage for the low battery warning.",
"minimum": 0,
"maximum": 100
}

example: |
{
"id": "unique_example_id",
"batterythreshold": 20
}

6.3.5 Property Definition

Table 12 Battery Property Definitions

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>discharging</td>
<td>boolean</td>
<td></td>
<td>Read Only</td>
<td>The status of discharging.</td>
</tr>
<tr>
<td>lowbattery</td>
<td>boolean</td>
<td></td>
<td>Read Only</td>
<td>The status of the low battery warning based upon the defined threshold.</td>
</tr>
<tr>
<td>capacity</td>
<td>number</td>
<td></td>
<td>Read Only</td>
<td>The total capacity in Amp-hours (Ah).</td>
</tr>
<tr>
<td>batterythreshold</td>
<td>integer</td>
<td></td>
<td></td>
<td>The threshold percentage for the low battery warning.</td>
</tr>
<tr>
<td>charge</td>
<td>integer</td>
<td>yes</td>
<td>Read Only</td>
<td>The current charge percentage.</td>
</tr>
<tr>
<td>charging</td>
<td>boolean</td>
<td></td>
<td>Read Only</td>
<td>The status of charging.</td>
</tr>
</tbody>
</table>

6.3.6 CRUDN behaviour

Table 13 Battery CRUDN operations

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/BatteryResURI</td>
<td>get</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

6.4 Binary Switch

6.4.1 Introduction

This resource describes a binary switch (on/off). The value is a boolean. A value of 'true' means that the switch is on. A value of 'false' means that the switch is off.

6.4.2 Example URI

/BinarySwitchResURI
6.4.3 Resource Type

The resource type (rt) is defined as: oic.r.switch.binary.

6.4.4 RAML Definition

```
---

#%RAML 0.8

title: OICBinarySwitch

version: v1.1.0-20160519

traits:
  - interface:
      queryParameters:
        if:
          enum: ["oic.if.a", "oic.if.baseline"]

/BinarySwitchResURI:

  description: |
    This resource describes a binary switch (on/off).
    The value is a boolean.
    A value of 'true' means that the switch is on.
    A value of 'false' means that the switch is off.

  is: ['interface']

  get:
    responses:
    200:
      body:
        application/json:
          schema: |

            
            "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.switch.binary.json#",
            "$schema": "http://json-schema.org/draft-04/schema#",
            "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All rights reserved."
            
            "title": "Binary Switch",
            "definitions": { 
              "oic.r.switch.binary": { 
                "type": "object",
                "properties": { 
                  "value": { 
                    "type": "boolean",
                    "description": "Status of the switch"
                  } 
                } 
              } 
            },
            "type": "object",
            "allOf": [ 
              {"$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},
              {"$ref": "/#definitions/oic.r.switch.binary"} 
            ],
            "required": [ "value" ]

            example: | 

            { 
              "rt": ["oic.r.switch.binary"],
              "id": "unique_example_id",
              "value": false
            }

---
```
body:
  application/json:
    schema: |
      {
        "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.switch.binary.json#",
        "$schema": "http://json-schema.org/draft-04/schema#",
        "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All rights reserved.",
        "title": "Binary Switch",
        "definitions": {
          "oic.r.switch.binary": {
            "type": "object",
            "properties": {
              "value": {
                "type": "boolean",
                "description": "Status of the switch"
              }
            }
          }
        },
        "allOf": [
          {"$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},
          {"$ref": "#/definitions/oic.r.switch.binary"}
        ],
        "required": [ "value" ]
      }
    example: |
      { "id": "unique_example_id", "value": true }
    responses:
      200:
        body:
          application/json:
            schema: |
              { "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.switch.binary.json#",
                "$schema": "http://json-schema.org/draft-04/schema#",
                "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All rights reserved.",
                "title": "Binary Switch",
                "definitions": {
                  "oic.r.switch.binary": {
                    "type": "object",
                    "properties": {
                      "value": {
                        "type": "boolean",
                        "description": "Status of the switch"
                      }
                    }
                  }
                },
                "allOf": [
                  {"$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},
                  {"$ref": "#/definitions/oic.r.switch.binary"}
                ],
                "required": [ "value" ]
              }
example: |

{
    "id": "unique_example_id",
    "value": true
}

### 6.4.5 Property Definition

**Table 14 Binary Switch Property Definitions**

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>value</td>
<td>boolean</td>
<td>yes</td>
<td></td>
<td>Status of the switch</td>
</tr>
</tbody>
</table>

### 6.4.6 CRUDN behaviour

**Table 15 Binary Switch CRUDN operations**

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/BinarySwitchResURI</td>
<td>get</td>
<td>post</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### 6.5 Brightness

#### 6.5.1 Introduction

This resource describes the brightness of a light or lamp. brightness is an integer showing the current brightness level as a quantized representation in the range 0-100. A brightness of 0 is the minimum for the resource. A brightness of 100 is the maximum for the resource.

#### 6.5.2 Example URI

/BrightnessResURI

#### 6.5.3 Resource Type

The resource type (rt) is defined as: oic.r.light.brightness.

#### 6.5.4 RAML Definition

```RAML
#%RAML 0.8
title: OICBrightness
version: vi.1.0-20160519
traits:
  - interface :
    queryParameters:
      if:
        enum: ["oic.if.a", "oic.if.baseline"]

/BrightnessResURI:
  description: |
  This resource describes the brightness of a light or lamp.
  brightness is an integer showing the current brightness level as a quantized representation in the range 0-100.
  A brightness of 0 is the minimum for the resource.
  A brightness of 100 is the maximum for the resource.
  is : ['interface']
  get:
    description: |
    Retrieves the current brightness level.
    responses:
    200:
```
body:

application/json:

  schema: |

    {
      "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.light.brightness.json#",
      "$schema": "http://json-schema.org/draft-04/schema#",
      "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All rights reserved.",
      "title": "Brightness",
      "definitions": {
        "oic.r.light.brightness": {
          "type": "object",
          "properties": {
            "brightness": {
              "type": "integer",
              "description": "Quantized representation in the range 0-100 of the current sensed or set value for Brightness",
              "minimum": 0,
              "maximum": 100
            }
          }
        }
      },
      "type": "object",
      "allOf": [
        {"$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},
        {"$ref": "#/definitions/oic.r.light.brightness"}
      ],
      "required": [ "brightness" ]
    }

  example: |

    { "rt": ["oic.r.light.brightness"],
      "id": "unique_example_id",
      "brightness": 50
    }

post:

  description: |

    Sets the desired brightness level.

  body:

    application/json:

      schema: |

        {
          "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.light.brightness.json#",
          "$schema": "http://json-schema.org/draft-04/schema#",
          "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All rights reserved.",
          "title": "Brightness",
          "definitions": {
            "oic.r.light.brightness": {
              "type": "object",
              "properties": {
                "brightness": {
                  "type": "integer",
                  "description": "Quantized representation in the range 0-100 of the current sensed or set value for Brightness",
                  "minimum": 0,
                  "maximum": 100
                }
              }
            }  
          },
          "type": "object",
          "allOf": [
            {"$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},
            {"$ref": "#/definitions/oic.r.light.brightness"}
          ],
          "required": [ "brightness" ]
        },
6.5.5 Property Definition

Table 16 Brightness Property Definitions

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
</table>

Copyright Open Connectivity Foundation, Inc. © 2016-18. All rights Reserved
<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>brightness</td>
<td>integer</td>
<td>yes</td>
<td></td>
<td>Quantized representation in the range 0-100 of the current sensed or set value for Brightness</td>
</tr>
</tbody>
</table>

### 6.5.6 CRUDN behaviour

#### Table 17 Brightness CRUDN operations

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/BrightnessResURI</td>
<td>get</td>
<td>post</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### 6.6 ColourChromaResURI

#### 6.6.1 Introduction

#### 6.6.2 Example URI

#### 6.6.3 Resource Type

#### 6.6.4 RAML Definition

```rml
#%RAML 0.8
title: OICCColourChroma
version: v1.1.0-20160519
traits:
  - interface:
    queryParameters:
      if:
        enum: ["oic.if.a", "oic.if.baseline"]

### 6.6.5 Property Definition

#### Table 18 ColourChromaResURI Property Definitions

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
</table>

### 6.6.6 CRUDN behaviour

#### Table 19 ColourChromaResURI CRUDN operations

### 6.7 Colour RGB

#### 6.7.1 Introduction

This resource specifies the actual colour in the RGB space represented as an array of integers. Each colour value is described with a Red, Green, Blue component. These colour values are encoded as an array of integer values ([R,G,B]). The minimum and maximum colour value per component may be described by range (from oic.r.baseresource). When range (from oic.r.baseresource) is omitted, then the range is [0,255].

#### 6.7.2 Example URI

/ColourRGBResURI

#### 6.7.3 Resource Type

The resource type (rt) is defined as: oic.r.colour.rgb.

#### 6.7.4 RAML Definition

```rml
#%RAML 0.8
```
title: OICColourRGB
version: v1.1.0-20160519
traits:
  - interface:
    queryParameters:
      if:
        enum: ["oic.if.a", "oic.if.baseline"]

/ColourRGBResURI:
  description: |
  This resource specifies the actual colour in the RGB space represented as an array of integers.
  Each colour value is described with a Red, Green, Blue component.
  These colour values are encoded as an array of integer values ([R,G,B]).
  The minimum and maximum colour value per component may be described by range (from oic.r.baseresource).
  When range (from oic.r.baseresource) is omitted, then the range is [0,255].

is : ['interface']
get:
  description: |
  Retrieves the current colour in RGB.
  Value is an array of integer values in the order R,G,B.

responses :
  200:
    body:
      application/json:
        schema:
          |
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            |
"id": "unique_example_id",
"rgbValue": [255,255,255],
"range": [0,255]
}

post:

description: |
Sets the current colourRGB value

body:
application/json:

schema: |

{  
"id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.colour.rgb.json#",
"$schema": "http://json-schema.org/draft-04/schema#",
"description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All rights
remained.",
"title": "Colour RGB",
"definitions": {
"oic.r.colour.rgb": {
"type": "object",
"properties": {
"rgbValue": {
"type": "array",
"description": "RGB value; the first item is the R, second the G, third the B.",
"minItems": 3,
"maxItems": 3,
"items": {
"type": "integer"
}
}
}
},
"type": "object",
"allOf": [{
"$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},
{"$ref": "#/definitions/oic.r.colour.rgb"}
],
"required": ["rgbValue"]
}

example: |

{  
"id": "unique_example_id",
"rgbValue": [255,0,0]
}

responses:

200:

body:
application/json:

schema: |

{  
"id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.colour.rgb.json#",
"$schema": "http://json-schema.org/draft-04/schema#",
"description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All rights
remained.",
"title": "Colour RGB",
"definitions": {
"oic.r.colour.rgb": {
"type": "object",
"properties": {
"rgbValue": {
"type": "array",
"description": "RGB value; the first item is the R, second the G, third the B.",
"minItems": 3,
"maxItems": 3,
"items": {
"type": "integer"
}
}
},
"type": "object",
"allOf": [{
"$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},
{"$ref": "#/definitions/oic.r.colour.rgb"}
],
"required": ["rgbValue"]
}

example: |

{  
"id": "unique_example_id",
"rgbValue": [255,0,0]

"rgbValue": {
    "type": "array",
    "description": "RGB value; the first item is the R, second the G, third the B.",
    "minItems": 3,
    "maxItems": 3,
    "items": {
        "type": "integer"
    }
}
}
},
"type": "object",
"allOf": [
    {"$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},
    {"$ref": "#/definitions/oic.r.colour.rgb"}
],
"required": ["rgbValue"

example: |
{
    "id": "unique_example_id",
    "rgbValue": [255,0,0]
}

6.7.5 Property Definition

Table 20 Colour RGB Property Definitions

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>rgbValue</td>
<td>array: see schema</td>
<td>yes</td>
<td></td>
<td>RGB value; the first item is the R, second the G, third the B.</td>
</tr>
</tbody>
</table>

6.7.6 CRUDN behaviour

Table 21 Colour RGB CRUDN operations

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/ColourRGBOResURI</td>
<td>get</td>
<td>post</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

6.8 Dimming

6.8.1 Introduction

This resource describes a dimming function. The value is an integer showing the current dimming level. If step (from oic.r.baseresource) is present then it represents the increment between dimmer values. When range (from oic.r.baseresource) is omitted, then the range is [0,100]. A value of 0 means total dimming; a value of 100 means no dimming.

6.8.2 Example URI

/DimmingResURI

6.8.3 Resource Type

The resource type (rt) is defined as: oic.r.light.dimming.

6.8.4 RAML Definition

RAML 0.8
title: OICDimming
version: v1.1.0-20160519
traits:
- interface:

  queryParameters:

  if:

    enum: ["oic.if.a", "oic.if.baseline"]

/DimmingResURI:

description: |
This resource describes a dimming function.
The value is an integer showing the current dimming level.
If step (from oic.r.baseresource) is present then it represents the increment between dimmer values.
When range (from oic.r.baseresource) is omitted, then the range is [0,100].
A value of 0 means total dimming; a value of 100 means no dimming.

is: ['interface']

get:

description: |
Retrieves the current dimming level.

responses:

  200:

    body:

      application/json:

        schema: |

        {
          "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.light.dimming.json#",
          "$schema": "http://json-schema.org/draft-04/schema#",
          "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All rights reserved.",
          "title": "Dimming",
          "definitions": { 
            "oic.r.light.dimming": { 
              "type": "object",
              "properties": { 
                "dimmingSetting": { 
                  "type": "integer",
                  "description": "Current dimming value"
                }
              }
            }
          },
          "type": "object",
          "allOf": [  
            {"$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},  
            {"$ref": "#/definitions/oic.r.light.dimming"}
          ],
          "required": ["dimmingSetting"]
        }

        example: |

        {  
          "rt": ["oic.r.light.dimming"],  
          "id": "unique_example_id",
          "dimmingSetting": 30,
          "step": 5,
          "range": [0,100]
        }

post:

description: |
Sets the desired dimming level.

body:
application/json:
  schema: |
    
  |
    "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.light.dimming.json#",
    "$schema": "http://json-schema.org/draft-04/schema#",
    "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All rights reserved.",
  |
   "title": "Dimming",
    "definitions": { |
   "oic.r.light.dimming": { |
      "type": "object",
      "properties": { |
         "dimmingSetting": { |
            "type": "integer",
            "description": "Current dimming value"
         } |
      } |
   } |
   |
   "type": "object",
    "allOf": [ |
      {"$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},
      {"$ref": "#/definitions/oic.r.light.dimming"}
   ], |
   |
   "required": ["dimmingSetting"] |
  |
  example: |
    |
    { |
      "id": "unique_example_id",
      "dimmingSetting": 40 |
    } |
  |
  responses:
    |
    200:
      |
      description: |
      "Indicates that the dimming was changed."
      |
      "The new dimming level is provided in the response." |
      |
      body:
        |
        application/json:
          |
          schema: |
            |
            "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.light.dimming.json#",
            "$schema": "http://json-schema.org/draft-04/schema#",
            "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All rights reserved.",
            "title": "Dimming",
            "definitions": { |
             "oic.r.light.dimming": { |
                "type": "object",
                "properties": { |
                   "dimmingSetting": { |
                      "type": "integer",
                      "description": "Current dimming value"
                   } |
                } |
             } |
            } |
        |
        "type": "object",
         "allOf": [ |
          ] |
        |
        "required": ["dimmingSetting"] |
  |
"example": |
{ "id": "unique_example_id",
  "dimmingSetting": 40
}

403:

description: |
This response is generated by the OIC Server when the client sends:
An update with an out of range property value for dimmingSetting.
The server responds with the current resource representation.

body:
application/json:
schema: |
{
  "id": 
  "http://openinterconnect.org/iotdatamodels/schemas/oic.r.light.dimming.json#",
  "$schema": "http://json-schema.org/draft-04/schema#",
  "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All
  rights reserved.",
  "title": "Dimming",
  "definitions": {
    "oic.r.light.dimming": {
      "type": "object",
      "properties": {
        "dimmingSetting": {
          "type": "integer",
          "description": "Current dimming value"
        }
      }
    }
  }
}

"type": "object",
"allOf": [
  {"$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},
  {"$ref": "#/definitions/oic.r.light.dimming"}
],
"required": ["dimmingSetting"]
}

example: |
{ "id": "unique_example_id",
  "dimmingSetting": 40
}

### 6.8.5 Property Definition

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>dimmingSetting</td>
<td>integer</td>
<td>yes</td>
<td></td>
<td>Current dimming value</td>
</tr>
</tbody>
</table>
Table 23 Dimming CRUDN operations

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/DimmingResURI</td>
<td></td>
<td>get</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

6.9 Door

6.9.1 Introduction

This resource describes the open state of the door. A door is modelled by means of openState (Open/Closed), openDuration (ISO 8601 Time), and openAlarm (boolean). For openState, the value 'Open' indicates the door is open. The value 'Closed' indicates the door is closed. The type of openDuration is an ISO 8601 Time encoded string. The openAlarm value 'true' indicates that the open alarm is active. The openAlarm value 'false' indicates that open alarm is not active.

6.9.2 Example URI

/DoorResURI

6.9.3 Resource Type

The resource type (rt) is defined as: oic.r.door.

6.9.4 RAML Definition

```rml
#%RAML 0.8
title: OICDoor
version: v1.1.0-20160519
traits:
  - interface-actuator:
    queryParameters:
      if:
        enum: ["oic.if.a", "oic.if.baseline"]
  - interface-all:
    queryParameters:
      if:
        enum: ["oic.if.a", "oic.if.s", "oic.if.baseline"]

/DoorResURI:

description: |
  This resource describes the open state of the door.
  A door is modelled by means of openState (Open/Closed), openDuration (ISO 8601 Time), and openAlarm (boolean).
  For openState, the value 'Open' indicates the door is open.
  The value 'Closed' indicates the door is closed.
  The type of openDuration is an ISO 8601 Time encoded string.
  The openAlarm value 'true' indicates that the open alarm is active.
  The openAlarm value 'false' indicates that open alarm is not active.

get:

description: |
  retrieves the state of the Door.

is : ['interface-all']

responses:

200:

  body:
    application/json:
      schema: |


```json
{
   "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.door.json#",
   "$schema": "http://json-schema.org/draft-04/schema#",
   "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All rights reserved.",
   "title": "Door",
   "definitions": {
      "oic.r.door": {
         "type": "object",
         "properties": {
            "openState": {
               "type": "string",
               "enum": ["Open", "Closed"],
               "readOnly": true,
               "description": "The state of the door (open or closed)"
            },
            "openDuration": {
               "type": "string",
               "readOnly": true,
               "description": "The time duration the door has been open"
            },
            "openAlarm": {
               "type": "boolean",
               "description": "The state of the door open alarm"
            }
         }
      }
   }
}
```

```
example:
{
   "id": "unique_example_id",
   "openState": "Open",
   "openDuration": "P0Y0M0DT2H25M5S",
   "openAlarm": true
}
```

```
post:

description: |
Sets the current Door properties.
The only property that can be set as part of an update operation is the openAlarm. This can be made active (true) or inactive (false)

is: ["interface-actuator"]

body:
application/json:

```
```
```
"type": "boolean",
"description": "The state of the door open alarm"
}
}

},
"type": "object",
"allOf": [
{
"$ref": "oic.baseResource.json#/definitions/oic.r.baseresource",
}"$ref": "#/definitions/oic.r.door"
]
}

example: |
{
  "id": "unique_example_id",
  "openAlarm": false
}

responses :
200:
  body:
    application/json:
      schema: |
        
        {"id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.door-Update.json#",
         "$schema": "http://json-schema.org/draft-04/schemas",
         "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All


  rights reserved.
          "title": "Door",
          "definitions": {
            "oic.r.door": {
            "type": "object",
            "properties": {
            "openAlarm": {
            "type": "boolean",
            "description": "The state of the door open alarm"
            }
            }
            }
            }
            
            }},
          "type": "object",
          "allOf": [
          "$ref": "oic.baseResource.json#/definitions/oic.r.baseresource",
          "$ref": "#/definitions/oic.r.door"
          ]
          }

          example: |

          {
          "id": "unique_example_id",
          "openAlarm": false
          }

6.9.5 Property Definition

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>openDuration</td>
<td>string</td>
<td>Read Only</td>
<td></td>
<td>The time duration the door has been open</td>
</tr>
<tr>
<td>openAlarm</td>
<td>boolean</td>
<td>The state of the door open alarm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>---------------</td>
<td>---------</td>
<td>----------------------------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>openState</td>
<td>string</td>
<td>yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Read Only</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>The state of the door (open or closed)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### 6.9.6 CRUDN behaviour

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/DoorResURI</td>
<td></td>
<td>get</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### 6.10 Energy Consumption

#### 6.10.1 Introduction

This resource describes the energy consumed by the device since power up (the energy value is in Watt Hours [Wh]) and the instantaneous power draw of the device (the power value is in Watts [W]) at the time the resource was queried. The power value is in Watts [W]. The energy value is in Watt Hours [Wh].

#### 6.10.2 Example URI

/EnergyConsumptionResURI

#### 6.10.3 Resource Type

The resource type (rt) is defined as: oic.r.energy.consumption.

#### 6.10.4 RAML Definition

```rml
#%RAML 0.8

title: OICEnergyConsumption

traits:
  - interface:

    queryParameters:
      if:
        enum: ["oic.if.s", "oic.if.baseline"]

/EnergyConsumptionResURI:

  description: |
    This resource describes the energy consumed by the device since power up (the energy value is in Watt Hours [Wh]) and the instantaneous power draw of the device (the power value is in Watts [W]) at the time the resource was queried. The power value is in Watts [W]. The energy value is in Watt Hours [Wh].

  is: ['interface']

  get:

    description: |
      Provides the current power draw and cumulative energy usage.

    responses:
      200:

        body:
          application/json:

            schema: |

            
              "id":
```

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"http://openinterconnect.org/iotdatamodels/schemas/oic.r.energy.consumption.json#",
"title": "Energy Consumption",

definitions": {
  "oic.r.energy.consumption": {
    "type": "object",
    "properties": {
      "power": {
        "type": "number",
        "readOnly": true,
        "description": "Instantaneous Power"
      },
      "energy": {
        "type": "number",
        "readOnly": true,
        "description": "Energy consumed"
      }
    }
  }
}
}
"type": "object",
"allOf": [
  {"$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},
  {"$ref": "#/definitions/oic.r.energy.consumption"}
],
"required": ["power", "energy"]
}
}
}

example: {
  "rt": ["oic.r.energy.consumption"],
  "id": "unique_example_id",
  "power": 2000.1,
  "energy": 3500.4
}

### Property Definition

**Table 26 Energy Consumption Property Definitions**

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>energy</td>
<td>number</td>
<td>yes</td>
<td>Read Only</td>
<td>Energy consumed</td>
</tr>
<tr>
<td>power</td>
<td>number</td>
<td>yes</td>
<td>Read Only</td>
<td>Instantaneous Power</td>
</tr>
</tbody>
</table>

### CRUDN behaviour

**Table 27 Energy Consumption CRUDN operations**

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/EnergyConsumptionResURI</td>
<td></td>
<td>get</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### 6.11 Energy Usage

#### 6.11.1 Introduction

This resource describes a cumulative time-based energy usage query. The resource is a composite resource being made up as a collection of TimePeriod Resource EnergyConsumption Resource

#### 6.11.2 Example URI

/EnergyUsageResURI
6.11.3 Resource Type
The resource type (rt) is defined as: oic.r.energy.usage.

6.11.4 RAML Definition

```rml
#%RAML 0.8

title: OICEnergyUsage
version: v1.1.0-20160519
traits:
  - interface:
    queryParameters:
      if:
        enum: ["oic.if.ll", "oic.if.b", "oic.if.baseline"]

/EnergyUsageResURI:
  description: |
  This resource describes a cumulative time-based energy usage query.
  The resource is a composite resource being made up as a collection of:
  TimePeriod Resource
  EnergyConsumption Resource
  is: ['interface']
get:
  description: |
  Retrieves the energy usage information as a composite of consumption over time.
responses:
  200:
    body: application/json:
      schema: |
      
      
```
6.11.5 CRUDN behaviour

Table 28 Energy Usage CRUDN operations

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/EnergyUsageResURI</td>
<td>get</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

6.12 Humidity

6.12.1 Introduction

This resource describes a sensed or desired humidity. The value humidity is an integer describing the percentage measured relative humidity. The value desiredHumidity is an integer showing the desired target relative humidity.

6.12.2 Example URI

/HumidityResURI

6.12.3 Resource Type

The resource type (rt) is defined as: oic.r.humidity.

6.12.4 RAML Definition

```raml
#%RAML 0.8

title: OICHumidity

version: v1.1.0-20160519

traits:
  - interface:
    queryParameters:
      if:
        enum: ["oic.if.a", "oic.if.s", "oic.if.baseline"]

/HumidityResURI:

description: |
    This resource describes a sensed or desired humidity.
    The value humidity is an integer describing the percentage measured relative humidity.
    The value desiredHumidity is an integer showing the desired target relative humidity.

    is: [\'interface\']

get:

description: |
    Retrieves the current (relative) humidity level.
```
responses:
200:
  body:
    application/json:
      schema: |
        {
          "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.humidity.json#",
          "$schema": "http://json-schema.org/draft-04/schema#",
          "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All rights reserved.",
          "title": "Humidity",
          "definitions": {
            "oic.r.humidity": {
              "type": "object",
              "properties": {
                "humidity": {
                  "type": "integer",
                  "readOnly": true,
                  "description": "Current sensed value for Humidity",
                  "minimum": 0,
                  "maximum": 100
                }
              }
            }
          }
        }

        example: |
          {
            "rt": ["oic.r.humidity"],
            "id": "unique_example_id",
            "humidity": 40,
            "desiredHumidity": 40
          }

        post:
          description: |
            Sets the desired relative humidity level.

          body:
            application/json:
              schema: |
                {
                  "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.humidity-Update.json#",
                  "$schema": "http://json-schema.org/draft-04/schema#",
                  "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All rights reserved.",
                  "title": "Humidity",
                  "definitions": {
                    "oic.r.humidity": {
                      "type": "object",
                      "properties": {
                        "desiredHumidity": {
                          "type": "integer",
                          "description": "Desired value for Humidity",
                          "minimum": 0,
                          "maximum": 100
                        }
                      }
                    }
                  }
                }
"type": "integer",
"description": "Desired value for Humidity",
"minimum": 0,
"maximum": 100
}
}

"type": "object",
"allOf": [
{"$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},
{"$ref": "#/definitions/oic.r.humidity"}
]

example: |
{
  "id": "unique_example_id",
  "desiredHumidity" : 45
}

responses :
200:
  description: |
    Indicates that the relative humidity level was changed.
    The new relative humidity level is provided in the response.

  body: application/json:
    schema: |
      {
        "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.humidity-
        Update.json#",
        "$schema": "http://json-schema.org/draft-04/schema#",
        "title": "Humidity",
        "definitions": {
          "oic.r.humidity": {
            "type": "object",
            "properties": {
              "desiredHumidity": {
                "type": "integer",
                "description": "Desired value for Humidity",
                "minimum": 0,
                "maximum": 100
              }
            }
          }
        }
      }

example: |
{
  "id": "unique_example_id",
  "desiredHumidity": 45
}
### 6.12.5 Property Definition

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>desiredHumidity</td>
<td>integer</td>
<td></td>
<td></td>
<td>Desired value for Humidity</td>
</tr>
<tr>
<td>humidity</td>
<td>integer</td>
<td>yes</td>
<td>Read Only</td>
<td>Current sensed value for Humidity</td>
</tr>
</tbody>
</table>

### 6.12.6 CRUDN behaviour

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/HumidityResURI</td>
<td>get</td>
<td>post</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### 6.13 Ice Maker

#### 6.13.1 Introduction

This resource describes the operational state of an Ice Maker. The status is a string containing a value from the set of possible ice maker statuses. The possible statuses are defined by the enumeration [on, off, full]. A status of 'on' means that the Ice Maker is operating. A status of 'off' means that the Ice Maker is not operating. A status of 'full' means that the ice collection bin is full (Ice Maker is operating).

#### 6.13.2 Example URI

```
/IceMakerResURI
```

#### 6.13.3 Resource Type

The resource type (rt) is defined as: oic.r.icemaker.

#### 6.13.4 RAML Definition

```raml
#%RAML 0.8

title: OICIceMaker
version: v1.1.0-20160519

traits:
- interface:
  queryParameters:
    if:
      enum: ["oic.if.a", "oic.if.baseline"]

/IceMakerResURI:

description: |
This resource describes the operational state of an Ice Maker.
The possible statuses are defined by the enumeration [on, off, full]
A status of 'on' means that the Ice Maker is operating.
A status of 'off' means that the Ice Maker is not operating.
A status of 'full' means that the ice collection bin is full (Ice Maker is operating).

is: ['interface']

get:

description: |
Retrieves the current Ice Maker status.

responses:
  200: ```
body:
  application/json:
    schema: |
      
    
      "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.iceMaker.json#",
      "$schema": "http://json-schema.org/draft-04/schema#",
      "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All rights reserved.",
      "title": "Ice Maker",
      "definitions": {
        "oic.r.iceMaker": {
          "type": "object",
          "properties": {
            "status": {
              "type": "string",
              "enum": ["on","off","full"],
              "description": "Status of the Ice Maker"
            }
          }
        },
        "oic.r.icemaker": {
          "type": "object",
          "properties": {
            "status": {
              "enum": ["on","off"],
              "description": "Set the status of the Ice Maker"
            }
          }
        }
      }
    }

    example: |
      
      {"rt": ["oic.r.icemaker"],
       "id": "unique_example_id",
       "status": "on"
      }

    post:
      description: |
        Sets the desired Ice Maker status.
        Only valid settings for status in a Post shall be [on,off].

      body:
        application/json:
          schema: |
            
            "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.iceMaker-Update.json#",
            "$schema": "http://json-schema.org/draft-04/schema#",
            "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All rights reserved.",
            "title": "Ice Maker",
            "definitions": {
              "oic.r.icemaker": {
                "type": "object",
                "properties": {
                  "status": {
                    "enum": ["on","off"],
                    "description": "Set the status of the Ice Maker"
                  }
                }
              }
            }
          }

          "$ref": "oic.baseResource.json#/definitions/oic.r.baseresource",
          "$ref": "#/definitions/oic.r.icemaker"},

          "required": ["status"]
    }
"required": ["status"]
}

```
example: |
{
  "id": "unique_example_id",
  "status": "off"
}
```

**responses**:

**200:**

```
200:

description: |
  Indicates that the Ice Maker status was changed.
  The new status is provided in the response.
```

```
body:
  application/json:
    schema: |
      {
        "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.iceMaker-
Update.json#",
        "$schema": "http://json-schema.org/draft-04/schema#",
        "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All
rights reserved.",
        "title": "Ice Maker",
        "definitions": {
          "oic.r.icemaker": {
            "type": "object",
            "properties": {
              "status": {
                "enum": ["on","off"],
                "description": "Set the status of the Ice Maker"
              }
            }
          }
        }
      ]
    example: |
      {
        "id": "unique_example_id",
        "status": "off"
      }
```

**403:**

```
403:

description: |
  This response is generated by the OIC Server when the client sends:
  An update with an invalid property value for status.
  The server responds with the current resource representation.
```

```
body:
  application/json:
    schema: |
      {
        "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.iceMaker-
Update.json#",
        "$schema": "http://json-schema.org/draft-04/schema#",
```
6.13.5 Property Definition

Table 31 Ice Maker Property Definitions

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>status</td>
<td>string</td>
<td>yes</td>
<td></td>
<td>Status of the Ice Maker</td>
</tr>
</tbody>
</table>

6.13.6 CRUDN behaviour

Table 32 Ice Maker CRUDN operations

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/IceMakerResURI</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

6.14 Lock

6.14.1 Introduction

Resource describing a lock. For the type of lockState, the value 'Locked' indicates that the door is Locked. The value 'Unlocked' indicates that the door is unlocked.

6.14.2 Example URI

/LockStatusResURI

6.14.3 Resource Type

The resource type (rt) is defined as: oic.r.lock.status.

6.14.4 RAML Definition

RAML 0.8

title: OICLock

version: v1.1.0-20160519

traits:
- interface:
  queryParameters:
    if:
      enum: ["oic.if.a", "oic.if.baseline"]
/LockStatusResURI:

description: |
Resource describing a lock.
For the type of lockState, the value 'Locked' indicates that the door is Locked.
The value 'Unlocked' indicates that the door is Unlocked.

is : ['interface']

get: 
  description: |
  Retrieves the state of the lock.
  responses :
  200: 
    body: 
      application/json: 
        schema: |
          
          
          "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.lock.status.json#",
          "$schema": "http://json-schema.org/draft-04/schema#",
          "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All rights reserved.",
          "title": "Lock",
          "definitions": { 
            "oic.r.lock.status": { 
              "type": "object",
              "properties": { 
                "lockState": { 
                  "type": "string",
                  "enum": ["Locked", "Unlocked"],
                  "description": "State of the lock." 
                } 
              } 
            } 
          } 
          
          example: |
            
            { "rt": ["oic.r.lock.status"],
              "id": "unique_example_id",
              "lockState": "Locked" 
            } 

  post: 
    description: |
    Sets the current lock state.
    body: 
      application/json: 
        schema: |
          
          
          "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.lock.status.json#",
          "$schema": "http://json-schema.org/draft-04/schema#",
          "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All rights
"definitions": {
  "oic.r.lock.status": {
    "type": "object",
    "properties": {
      "lockState": {
        "type": "string",
        "enum": ["Locked", "Unlocked"],
        "description": "State of the lock."
      }
    }
  }
},
"type": "object",
"allOf": [
  {"$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},
  {"$ref": "#/definitions/oic.r.lock.status"}
],
"required": ["lockState"]
}
}

element: |
{
  "id": "unique_example_id",
  "lockState": "Unlocked"
}

descriptions : 200:

body:
application/json:

  schema: |
  {
    "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.lock.status.json#",
    "$schema": "http://json-schema.org/draft-04/schema#",
    "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All
  rights reserved.",
    "title": "Lock",
    "definitions": {
      "oic.r.lock.status": {
        "type": "object",
        "properties": {
          "lockState": {
            "type": "string",
            "enum": ["Locked", "Unlocked"],
            "description": "State of the lock."
          }
        }
      }
    },
    "type": "object",
    "allOf": [
      {"$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},
      {"$ref": "#/definitions/oic.r.lock.status"}
    ],
    "required": ["lockState"]
  }
}

element: |
{
  "id": "unique_example_id",
  "lockState": "Unlocked"
}
This response is generated by the OIC Server when the client sends:
An update with an invalid property value for lockState.
The server responds with the current resource representation.

body:
application/json:
schema:
  
  
example:
  

6.14.5 Property Definition

Table 33 Lock Property Definitions

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>lockState</td>
<td>string</td>
<td>yes</td>
<td></td>
<td>State of the lock.</td>
</tr>
</tbody>
</table>

6.14.6 CRUDN behaviour

Table 34 Lock CRUDN operations

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/LockStatusResURI</td>
<td>get</td>
<td></td>
<td>post</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

6.15 Lock Code

6.15.1 Introduction

Resource describing a lock code. The lockCodeList is an array of possible codes that may be associated with a lock. These are all presented as strings.

6.15.2 Example URI

/LockCodeResURI
### Resource Type

The resource type (rt) is defined as: `oic.r.lock.code`

### RAML Definition

#### RAML 0.8

```yaml
#%RAML 0.8

title: OICLockCode
version: v1.1.0-20160519

traits:
  - interface:
    queryParameters:
      if:
        enum: ["oic.if.a", "oic.if.baseline"]

/LockCodeResURI:
  description: |
    Resource describing a lock code.
    The lockCodeList is an array of possible codes that may be associated with a lock.
    These are all presented as strings.

  is: ["interface"]

get:
  description: |
    Retrieves the current lock code values.

  responses:
    200:
      body:
        application/json:
          schema: |
            { "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.lock.code.json#", "$schema": "http://json-schema.org/draft-04/schema#", "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All rights reserved.

            "title": "Lock Code",
            "definitions": { "oic.r.lock.code": { "type": "object",
                "properties": { "lockCodeList" : { "type": "array",
                    "items": [ { "type": "string",
                        "description": "Value for the lock code"
                    } ]
                } },
            } },
            }
        }
    example: |
        { "rt": ["oic.r.lock.code"],
```
post:

description: |
  Updates the current lock code values.

body:

application/json:

  schema: |

    
    "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.lock.code.json#",
    "$schema": "http://json-schema.org/draft-04/schema#",
    "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All rights reserved.",
    "title": "Lock Code",
    "definitions": {
      "oic.r.lock.code": {
        "type": "object",
        "properties": {
          "lockCodeList": {
            "type": "array",
            "items": {
              "type": "string",
              "description": "Value for the lock code"
            }
          }
        }
      }
    },
    "type": "object",
    "allOf": [
      {"$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},
      {"$ref": "#/definitions/oic.r.lock.code"}
    ],
    "required": ["lockCodeList"]

example: |

  
  "id": "unique_example_id",
  "lockCodeList": ["543210","332211"]

responses:

  200:

  body:

  application/json:

    schema: |

      
      "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.lock.code.json#",
      "$schema": "http://json-schema.org/draft-04/schema#",
      "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All rights reserved.",
      "title": "Lock Code",
      "definitions": {
        "oic.r.lock.code": {
          "type": "object",
          "properties": {
            "lockCodeList": {
              "type": "array",
              "items": {
                "type": "string",
                "description": "Value for the lock code"
              }
            }
          }
        }
      }
"description": "Value for the lock code"
]
}
}
}
"type": "object",
"allOf": [
{
"$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},
{
"$ref": "#/definitions/oic.r.lock.code"
}
],
"required": ["lockCodeList"]
}

example: |
{
"id": "unique_example_id",
"lockCodeList": ["543210","332211"]
}

### 6.15.5 Property Definition

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>lockCodeList</td>
<td>array: see schema</td>
<td>yes</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### 6.15.6 CRUDN behaviour

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/LockCodeResURI</td>
<td>get</td>
<td>post</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### 6.16 Mode

#### 6.16.1 Introduction

This resource describes the modes of operation that a device can provide. The mode can be read or set. The supportedModes is an array of possible modes the device supports. The modes are an array of the currently active mode(s).

#### 6.16.2 Example URI

/ModeResURI

#### 6.16.3 Resource Type

The resource type (rt) is defined as: oic.r.mode.

#### 6.16.4 RAML Definition

```raml
#%RAML 0.8

title: OICMode
version: v1.1.0-20160519

traits:
  - interface :
      queryParameters:
          if:
              enum: ["oic.if.a", "oic.if.baseline"]
```

/ModeResURI:
  description: |
  This resource describes the modes of operation that a device can provide.
  The mode can be read or set.

---

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The supportedModes is an array of possible modes the device supports.
The modes are an array of the currently active mode(s).

is: ['interface']

get:

description: |
  Retrieves the current mode.

responses:

200:
  body:
  application/json:
    schema: |
      |
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```json
{
  "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.mode-Update.json#",
  "$schema": "http://json-schema.org/draft-04/schema#",
  "title": "Mode",
  "definitions": {
    "oic.r.mode": {
      "type": "object",
      "properties": {
        "modes": {
          "type": "array",
          "description": "Desired mode",
          "items": {
            "type": "string"
          }
        }
      }
    }
  },
  "type": "object",
  "allOf": [
    {
      "$ref": "oic.baseResource.json#/definitions/oic.r.baseresource",
      "$ref": "#/definitions/oic.r.mode"
    },
    {"required": ["modes"]
  }
}
}
```

```json
{}

example: |
{
  "id": "unique_example_id",
  "modes": ["armedAway"]
}

403:

description: |
This response is generated by the OIC Server when the client sends:
An update with an value for mode that is not found in supportedModes.
The server responds with the current resource representation.

body:
application/json:

  schema: |
    {
      "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.mode.json#",
      "$schema": "http://json-schema.org/draft-04/schema#",
      "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All
rights reserved.",
      "title": "Mode",
      "definitions": {
        "oic.r.mode": {
          "type": "object",
          "properties": {
            "supportedModes": {
              "type": "array",
              "readOnly": true,
              "description": "Array of possible modes the device supports.",
              "items": {
                "type": "string"
              }
            }
          }
        }
      }
    }

ex

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>id</td>
<td>string</td>
<td>false</td>
<td>get, set</td>
<td>unique example id</td>
</tr>
<tr>
<td>supportedModes</td>
<td>array</td>
<td>true</td>
<td>get, set</td>
<td>Array of possible modes the device supports</td>
</tr>
<tr>
<td>modes</td>
<td>array</td>
<td>true</td>
<td>get</td>
<td>Array of the currently active mode(s)</td>
</tr>
</tbody>
</table>

6.16.5 Property Definition

Table 37 Mode Property Definitions
```
supportedModes array: see yes Read Only Array of possible modes the device supports.

| modes       | array: see yes | Array of the currently active mode(s) |

### 6.16.6 CRUDN behaviour

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/ModeResURI</td>
<td></td>
<td>get</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### 6.17 Open Level

#### 6.17.1 Introduction

This resource describes how open or ajar an entity such as a window, door, blind or shutter is. The openLevel can be read (acting as a sensor). The openLevel can also be set (acting as an actuator). The openLevel is device dependent across the range provided. When range (from oic.r.baseresource) is omitted then 0 to 100 is assumed where 0 means closed, 100 means fully open. If a range is provided then the lower bound=closed, upper bound=open. If step (from oic.r.baseresource) is present then it represents the increment between possible values; if not provided 1 is assumed.

#### 6.17.2 Example URI

/OpenLevelResURI

#### 6.17.3 Resource Type

The resource type (rt) is defined as: oic.r.openlevel.

#### 6.17.4 RAML Definition

```yaml
#%RAML 0.8
title: OICOpenLevel
version: v1.1.0-20160519
traits:
  - interface:
    queryParameters:
      if:
        enum: ["oic.if.a", "oic.if.baseline"]

/OpenLevelResURI:

description: |
  This resource describes how open or ajar an entity such as a window, door, blind or shutter is. The openLevel can be read (acting as a sensor). The openLevel can also be set (acting as an actuator). The openLevel is device dependent across the range provided. When range (from oic.r.baseresource) is omitted then 0 to 100 is assumed where 0 means closed, 100 means fully open. If a range is provided then the lower bound=closed, upper bound=open. If step (from oic.r.baseresource) is present then it represents the increment between possible values; if not provided 1 is assumed.

is: ['interface']

get:

description: |
  Retrieves the current openLevel.

responses:
```

---

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200:

body:

application/json:

schema: |

{
  "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.openLevel.json#",
  "$schema": "http://json-schema.org/draft-04/schema#",
  "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All rights reserved.",
  "title": "Open Level",
  "definitions": {
    "oic.r.openlevel": {
      "type": "object",
      "properties": {
        "openLevel": {
          "type": "integer",
          "description": "How open or ajar the entity is"
        },
        "increment": {
          "type": "integer",
          "description": "Deprecated, use 'step' instead.",
          "readOnly": true
        }
      }
    }
  },
  "type": "object",
  "allOf": [
    {"$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},
    {"$ref": "#/definitions/oic.r.openlevel"
  }]
  "required": ["openLevel"]
}

example: |

{
  "rt": ["oic.r.openlevel"],
  "id": "unique_example_id",
  "openLevel": 50,
  "step": 2,
  "range": [0,100]
}

post:

description: |

Sets the desired openLevel.

body:

application/json:

schema: |

{
  "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.openLevel.json#",
  "$schema": "http://json-schema.org/draft-04/schema#",
  "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All rights reserved.",
  "title": "Open Level",
  "definitions": {
    "oic.r.openlevel": {
      "type": "object",
      "properties": {
        "openLevel": {
          "type": "integer",
          "description": "How open or ajar the entity is"
        },
        "increment": {
          "type": "integer",
          "description": "How open or ajar the entity is"
        }
      }
    }
  },
"type": "integer",
"description": "Deprecated, use 'step' instead."
"readOnly": true
}
}
}

example: |
{
  "id": "unique_example_id",
  "openLevel": 0
}

responses:
200:
  body:
    application/json:
      schema: |
        {
          "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.openLevel.json#",
          "$schema": "http://json-schema.org/draft-04/schema#",
          "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All rights reserved.",
          "title": "Open Level",
          "definitions": {
            "oic.r.openlevel": {n
              "type": "object",
              "properties": {
                "openLevel": {n
                  "type": "integer",
                  "description": "How open or ajar the entity is",
                },
                "increment": {
                  "type": "integer",
                  "description": "Deprecated, use 'step' instead."
                }
              },
              "readOnly": true
            }
          }
        }

403:
  description: |
This response is generated by the OIC Server when the client sends:

An update with an out of range property value for openLevel.
The server responds with the current resource representation.

```
body:
  application/json:
    schema: |
      {
        "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.openLevel.json#",
        "$schema": "http://json-schema.org/draft-04/schema#",
        "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All rights reserved.",
        "title": "Open Level",
        "definitions": {
          "oic.r.openlevel": {
            "type": "object",
            "properties": {
              "openLevel": {
                "type": "integer",
                "description": "How open or ajar the entity is"
              },
              "increment": {
                "type": "integer",
                "description": "Deprecated, use 'step' instead.",
                "readOnly": true
              }
            }
          }
        }
      }

      example: |
        {
          "id": "unique_example_id",
          "openLevel": 50,
          "step": 2,
          "range": [0,100]
        }
```

### 6.17.5 Property Definition

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>openLevel</td>
<td>integer</td>
<td>yes</td>
<td></td>
<td>How open or ajar the entity is</td>
</tr>
<tr>
<td>increment</td>
<td>integer</td>
<td></td>
<td>Read Only</td>
<td>Deprecated, use 'step' instead.</td>
</tr>
</tbody>
</table>

### 6.17.6 CRUDN behaviour

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/OpenLevelResURI</td>
<td>get</td>
<td></td>
<td>post</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
6.18 Operational State

6.18.1 Introduction

This resource describes the operational and job states on a device. The states can be read or set, setting indicates a desired state. A device may reject an attempt to set a state that would result in adverse operational characteristics. The machineStates is an array of the possible operational states. The currentMachineState is the current state of operation of the device. The jobStates is an array of the possible job states. The currentJobState is the currently active jobState. The runningTime is the ISO8601 encoded elapsed time in the current operational state. The remainingTime is the ISO8601 encoded time till completion of the current operational state. The progressPercentage is the percentage completeness of the current jobState.

6.18.2 Example URI

/OperationalStateResURI

6.18.3 Resource Type

The resource type (rt) is defined as: oic.r.operational.state.

6.18.4 RAML Definition

```raml
#%RAML 0.8

title: OICOperation

version: v1.1.0-20160519

traits:

- interface:

  queryParameters:

    if:

      enum: ["oic.if.a", "oic.if.baseline"]

/OperationalStateResURI:

  description: |

This resource describes the operational and job states on a device. The states can be read or set, setting indicates a desired state. A device may reject an attempt to set a state that would result in adverse operational characteristics. The machineStates is an array of the possible operational states. The currentMachineState is the current state of operation of the device. The jobStates is an array of the possible job states. The currentJobState is the currently active jobState. The runningTime is the ISO8601 encoded elapsed time in the current operational state. The remainingTime is the ISO8601 encoded time till completion of the current operational state. The progressPercentage is the percentage completeness of the current jobState.

is : ['interface']

get:

  description: |

Retrieves the current operational and job states.

  responses:

    200:

      body:

        application/json:

          schema: |

            "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.operational.state.json#",

            "$schema": "http://json-schema.org/draft-04/schema#",

            "description" : "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All rights reserved.",

            "title": "Operational State",

            "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.operational.state.json#",

            "$schema": "http://json-schema.org/draft-04/schema#",

            "description" : "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All rights reserved.",

            "title": "Operational State",
```
"definitions": {
  "oic.r.operational.state": {
    "type": "object",
    "properties": {
      "machineStates": {
        "type": "array",
        "readOnly": true,
        "description": "array of the possible operational states.",
        "items": {
          "type": "string"
        }
      },
      "currentMachineState": {
        "type": "string",
        "description": "Current state of operation of the device."
      },
      "jobStates": {
        "type": "array",
        "readOnly": true,
        "description": "array of the possible job states.",
        "items": {
          "type": "string"
        }
      },
      "currentJobState": {
        "type": "string",
        "description": "Currently active jobState"
      },
      "runningTime": {
        "type": "string",
        "readOnly": true,
        "description": "Elapsed time in the current operational state"
      },
      "remainingTime": {
        "type": "string",
        "readOnly": true,
        "description": "Time till completion of the current operational state"
      },
      "progressPercentage": {
        "type": "integer",
        "readOnly": true,
        "description": "Percentage completeness of the current jobState",
        "minimum": 0,
        "maximum": 100
      }
    }
  }},
  "type": "object",
  "allOf": [
    {"$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},
    {"$ref": "#/definitions/oic.r.operational.state"}
  ],
  "required": ["machineStates", "currentMachineState"]
}

example: |

{
  "rt": ["oic.r.operational.state"],
  "id": "unique_example_id",
  "machineStates": ["pause", "stopped", "idle", "active"],
  "currentMachineState": "active",
  "jobStates": ["preWash", "wash", "rinse", "spin", "dry", "airDry",
                 "wrinklePrevent"],
  "currentJobState": "rinse",
  "runningTime": "PT15M20S",
  "remainingTime": "PT10M40S",
  "progressPercentage": 75
}
post:

description: |
Sets the desired operational or job state.

body:
application/json:
schema: |

{
"id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.operational.state-
Update.json#",
"$schema": "http://json-schema.org/draft-04/schema#",
"description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All rights
reserved.",
"title": "Operational State",
"definitions": {
  "oic.r.operational.state": {
    "type": "object",
    "properties": {
      "currentMachineState": {
        "type": "string",
        "description": "Current state of operation of the device."
      },
      "currentJobState": {
        "type": "string",
        "description": "Currently active jobState"
      }
    }
  }
},
"type": "object",
"allOf": [
{"$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},
{"$ref": "#/definitions/oic.r.operational.state"}
]
}
example: |

{  
  "id": "unique_example_id",
  "currentMachineState": "pause",
  "currentJobState": "wash"
}

responses:
200:

body:
application/json:
schema: |

{
"id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.operational.state-
Update.json#",
"$schema": "http://json-schema.org/draft-04/schema#",
"description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All rights
reserved.",
"title": "Operational State",
"definitions": {
  "oic.r.operational.state": {
    "type": "object",
    "properties": {
      "currentMachineState": {
        "type": "string",
        "description": "Current state of operation of the device."
      },
      "currentJobState": {
        "type": "string",
        "description": "Currently active jobState"
      }
    }
  }
},
"type": "object",
"allOf": [
{"$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},
{"$ref": "#/definitions/oic.r.operational.state"}
]
}
"description": "Currently active jobState"}
}
}

"allOf": [
    {
        "$ref": "oic.baseResource.json#/definitions/oic.r.baseresource",
    },
    {
        "$ref": "#/definitions/oic.r.operational.state"
    }
]
}

example: |
{
    "id": "unique_example_id",
    "currentMachineState": "pause",
    "currentJobState": "wash"
}

403:

description: |
This response is generated by the OIC Server when the client sends:
An update with an value for currentMachineState that is not found in machineStates.
An update with an value for currentJobState that is not found in jobStates.
The server responds with the current resource representation.

body:
application/json:

    schema: |

        "id": http://openinterconnect.org/iotdatamodels/schemas/oic.r.operational.state.json#",
        "$schema": "http://json-schema.org/draft-04/schema#",
        "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All
        rights reserved.",
        "title": "Operational State",
        "definitions": |
        "oic.r.operational.state": |
            "type": "object",
            "properties": |
                "machineStates": |
                    "type": "array",
                    "readOnly": true,
                    "description": "array of the possible operational states.",
                    "items": |
                        "type": "string"
                },
                "currentMachineState": |
                    "type": "string",
                    "description": "Current state of operation of the device."
                },
                "jobStates": |
                    "type": "array",
                    "readOnly": true,
                    "description": "array of the possible job states.",
                    "items": |
                        "type": "string"
                },
                "currentJobState": |
                    "type": "string",
                    "description": "Currently active jobState"
                },
                "runningTime": |
                    "type": "string",
                    "readOnly": true,
"description": "Elapsed time in the current operational state"},
"remainingTime": {
  "type": "string",
  "readOnly": true,
  "description": "Time till completion of the current operational state"
},
"progressPercentage": {
  "type": "integer",
  "readOnly": true,
  "description": "Percentage completeness of the current jobState",
  "minimum": 0,
  "maximum": 100
}

"type": "object",
"allOf": [
  {"$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},
  {"$ref": "#/definitions/oic.r.operational.state"}
],
"required": ["machineStates", "currentMachineState"]

example: |
{
  "id": "unique_example_id",
  "machineStates": ["pause", "stopped", "idle", "active"],
  "currentMachineState": "active",
  "jobStates": ["preWash", "wash", "rinse", "spin", "dry", "airDry",
  "wrinklePrevent"],
  "currentJobState": "rinse",
  "runningTime": "PT15M20S",
  "remainingTime": "PT10M40S",
  "progressPercentage": 75
}

6.18.5 Property Definition

Table 41 Operational State Property Definitions

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>currentMachineState</td>
<td>string</td>
<td>yes</td>
<td></td>
<td>Current state of operation of the device.</td>
</tr>
<tr>
<td>currentJobState</td>
<td>string</td>
<td></td>
<td></td>
<td>Currently active jobState</td>
</tr>
<tr>
<td>machineStates</td>
<td>array: see schema</td>
<td>yes</td>
<td>Read Only</td>
<td>array of the possible operational states.</td>
</tr>
<tr>
<td>runningTime</td>
<td>string</td>
<td></td>
<td>Read Only</td>
<td>Elapsed time in the current operational state.</td>
</tr>
<tr>
<td>remainingTime</td>
<td>string</td>
<td></td>
<td>Read Only</td>
<td>Time till completion of the current operational state.</td>
</tr>
<tr>
<td>progressPercentage</td>
<td>integer</td>
<td></td>
<td>Read Only</td>
<td>Percentage completeness of the current jobState.</td>
</tr>
</tbody>
</table>
jobStates | array: see schema | Read Only | array of the possible job states.

### 6.18.6 CRUDN behaviour

#### Table 42 Operational State CRUDN operations

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/OperationalStateResURI</td>
<td></td>
<td>get</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### 6.19 Ramp Time

#### 6.19.1 Introduction

This resource that describes the Ramp Time of a dimming function. This specifies the actual speed of changing between 2 dimming values. Time is specified in milliseconds [ms]. When range (from oic.r.baseresource) is omitted the maximum value is 100 ms. The RampTime of 0ms indicates the minimal delay possible by the implementation.

#### 6.19.2 Example URI

/RampTimeResURI

#### 6.19.3 Resource Type

The resource type (rt) is defined as: oic.r.light.ramptime.

#### 6.19.4 RAML Definition

```raml
#%RAML 0.8
	title: OICRampTime
	numbering: v1.1.0-20160519

traits:
- interface :
  queryParameters:
    if:
      enum: ["oic.if.a", "oic.if.baseline"]

/RampTimeResURI:

description: |
This resource that describes the Ramp Time of a dimming function.
This specifies the actual speed of changing between 2 dimming values.
Time is specified in milliseconds [ms].
When range (from oic.r.baseresource) is omitted the maximum value is 100 ms.
The RampTime of 0ms indicates the minimal delay possible by the implementation.

is : ['interface']

get:

description: |
Retrieves the current RampTime.

responses :
200:
  body:
    application/json:
      schema: |
      |
      "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.light.ramptime.json#",
      "schema": "http://json-schema.org/draft-04/schema#",
      "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All rights reserved.",
```


"title": "Ramp Time",
"definitions": {
  "oic.r.light.ramptime": {
    "type": "object",
    "properties": {
      "rampTime": {
        "type": "integer",
        "description": "Actual speed of changing between 2 dimming values"
      }
    }
  }
},
"type": "object",
"allOf": [
  {"$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},
  {"$ref": "#/definitions/oic.r.light.ramptime"}
],
"required": ["rampTime"]

example: |
{
  "rt": ["oic.r.light.ramptime"],
  "id": "unique_example_id",
  "rampTime": 0,
  "range": [0,100]
}

post:

description: |
Sets the current RampTime.

body:
  application/json:
    schema: |
    {
      "id": "http://openinterconnect/iotdatamodels/schemas/oic.r.light.ramTime.json#",
      "$schema": "http://json-schema.org/draft-04/schema#",
      "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All rights reserved.",
      "title": "Ramp Time",
      "definitions": {
        "oic.r.light.ramtime": {
          "type": "object",
          "properties": {
            "rampTime": {
              "type": "integer",
              "description": "Actual speed of changing between 2 dimming values"
            }
          }
        }
      },
      "type": "object",
      "allOf": [
        {"$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},
        {"$ref": "#/definitions/oic.r.light.ramtime"}
      ],
      "required": ["rampTime"]
    }
  example: |
  {
    "id": "unique_example_id",
    "rampTime": 50
  }
responses:
200:
  body:
    application/json:
      schema: |
        
        "id": 
        "http://openinterconnect.org/iotdatamodels/schemas/oic.r.light.rampTime.json#",
        "$schema": "http://json-schema.org/draft-04/schema#",
        "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All rights reserved.",
        "title": "Ramp Time",
        "definitions": |
          
          "oic.r.light.ramptime": |
            "type": "object",
            "properties": |
            "rampTime": |
              "type": "integer",
              "description": "Actual speed of changing between 2 dimming values"
          
        
        "type": "object",
        "allOf": |
          
          "$ref": "oic.baseResource.json#/definitions/oic.r.baseresource",
          "$ref": "#/definitions/oic.r.light.ramptime"
        
        "required": ["rampTime"]
      
      example: |
        
        { |
          "id": "unique_example_id",
          "rampTime": 50
        }
      
      403:
      
      description: |
      
      "This response is generated by the OIC Server when the client sends:
      An update with an out of range property value for rampTime.
      The server responds with the current resource representation.
      "

      body:
      application/json:
      
      schema: |
      
      "id": 
      "http://openinterconnect.org/iotdatamodels/schemas/oic.r.light.rampTime.json#",
      "$schema": "http://json-schema.org/draft-04/schema#",
      "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All rights reserved.",
      "title": "Ramp Time",
      "definitions": |
      "oic.r.light.ramptime": |
        "type": "object",
        "properties": |
        "rampTime": |
          "type": "integer",
          "description": "Actual speed of changing between 2 dimming values"
      
      "type": "object",
      }
"allOf": [
  "{ "$ref": "oic.baseResource.json#/definitions/oic.r.baseresource" },
  "{ "$ref": "#/definitions/oic.r.light.ramptime" }
],
"required": ["rampTime"]
}

example: |
{
  "id": "unique_example_id",
  "rampTime": 40
}

### Property Definition

#### Table 43 Ramp Time Property Definitions

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>rampTime</td>
<td>integer</td>
<td>yes</td>
<td></td>
<td>Actual speed of changing between 2 dimming values</td>
</tr>
</tbody>
</table>

### CRUDN behaviour

#### Table 44 Ramp Time CRUDN operations

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/RampTimeResURI</td>
<td>get</td>
<td>post</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### 6.20 Refrigeration

#### 6.20.1 Introduction

This resource describes a refrigeration function. The filter state is a read-only value providing the percentage life time remaining for the water filter. RapidFreeze is a boolean that controls the rapid freeze capability if present. RapidCool is a boolean that controls the rapid cool capability if present. Defrost is a boolean that controls the defrost cycle if present. At least one of the listed Properties shall be present in a Resource Instance.

#### 6.20.2 Example URI

/RefrigerationResURI

#### 6.20.3 Resource Type

The resource type (rt) is defined as: oic.r.refrigeration.

#### 6.20.4 RAML Definition

```yaml
#%RAML 0.8
title: OICRefrigeration
version: v1.1.0-20160519
traits:
  - interface :
        queryParameters:
          if:
            enum: ["oic.if.a", "oic.if.baseline"]

/RefrigerationResURI:
  description: |
    This resource describes a refrigeration function.
    The filter state is a read-only value providing the percentage life time remaining for the water filter.
```
RapidFreeze is a boolean that controls the rapid freeze capability if present.

RapidCool is a boolean that controls the rapid cool capability if present.

Defrost is a boolean that controls the defrost cycle if present.

At least one of the listed Properties shall be present in a Resource Instance.

is : ['interface']

get:

description: |
Retrieves the current Refrigeration function status; all Properties supported by the Device
are returned.

responses :
200:
    body:
        application/json:
            schema: |

            "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.refrigeration.json#",
            "schema": "http://json-schema.org/draft-04/schema#",
            "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All
rights reserved.",
            "title": "Refrigeration",
            "definitions": {
                "oic.r.refrigeration": {
                    "type": "object",
                    "anyOf": [
                        {
                            "required": ["filter"],
                        },
                        {
                            "required": ["rapidFreeze"],
                        },
                        {
                            "required": ["rapidCool"],
                        },
                        {
                            "required": ["defrost"]
                        }]
                },
                "properties": {
                    "filter": {
                        "type": "integer",
                        "readOnly": true,
                        "description": "Percentage life time remaining for the water filter",
                        "minimum": 0,
                        "maximum": 100
                    },
                    "rapidFreeze": {
                        "type": "boolean",
                        "description": "Indicates whether the unit has a rapid freeze capability
active."
                    },
                    "rapidCool": {
                        "type": "boolean",
                        "description": "Indicates whether the unit has a rapid cool capability
active"
                    },
                    "defrost": {
                        "type": "boolean",
                        "description": "Indicates whether a defrost cycle is currently active"
                    }
                }
            }

example: |
{  "rt": ["oic.r.refrigeration"],  "id": "unique_example_id",  "filter": 75,  "rapidFreeze": false,  "rapidCool": false,  "defrost": true }

post:  

description: |
Activates the desired Refrigeration functions.  
Supported values are rapidFreeze, rapidCool and defrost.  
At least one of the supported values shall be provided.

body:  
application/json:  
schema: |

{"id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.refrigeration-Update.json#",  "$schema": "http://json-schema.org/draft-04/schema#",  "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All rights reserved. ",  "title": "Refrigeration",  "definitions": {  "oic.r.refrigeration": {  "type": "object",  "anyOf": [  "required": ["rapidFreeze"],  "required": ["rapidCool"],  "required": ["defrost"]  ],  "properties": {  "rapidFreeze": {  "type": "boolean",  "description": "Indicates whether the unit has a rapid freeze capability active."  },  "rapidCool": {  "type": "boolean",  "description": "Indicates whether the unit has a rapid cool capability active"  },  "defrost": {  "type": "boolean",  "description": "Indicates whether a defrost cycle is currently active"  }  }  },  "allOf": [  {"$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},  {"$ref": "#/definitions/oic.r.refrigeration"}  ]}

example: |

{"id": "unique_example_id",  "rapidFreeze": true}

responses :  

200:
Indicates that the Refrigeration function was changed.
The new status can be provided in the response.

body:
application/json:
    schema:
        |

        | "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.refrigeration-
        | Update.json#",
        | "$schema": "http://json-schema.org/draft-04/schema#",
        | "description" : "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All
        | rights reserved.",
        | "title": "Refrigeration",
        | "definitions": {
        | "oic.r.refrigeration": {
        | "type": "object",
        | "anyOf": [
        | {"required": ["rapidFreeze"]},
        | {"required": ["rapidCool"]},
        | {"required": ["defrost"]}
        | ],
        | "properties": {
        | "rapidFreeze": {
        | "type": "boolean",
        | "description": "Indicates whether the unit has a rapid freeze capability
        | active."
        | },
        | "rapidCool": {
        | "type": "boolean",
        | "description": "Indicates whether the unit has a rapid cool capability
        | active"
        | },
        | "defrost": {
        | "type": "boolean",
        | "description": "Indicates whether a defrost cycle is currently active"
        | }
        | },
        | "type": "object",
        | "allOf": [
        | {"$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},
        | {"$ref": "#/definitions/oic.r.refrigeration"}
        | ]
        | }
        | example: |

        | {"id": "unique_example_id",
        | "rapidFreeze": true
        | }

6.20.5 Property Definition

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>filter</td>
<td>integer</td>
<td>yes</td>
<td>Read Only</td>
<td>Percentage life time remaining for the water filter</td>
</tr>
<tr>
<td>rapidFreeze</td>
<td>boolean</td>
<td>yes</td>
<td></td>
<td>Indicates whether the unit has a rapid</td>
</tr>
<tr>
<td>Resource</td>
<td>Create</td>
<td>Read</td>
<td>Update</td>
<td>Delete</td>
</tr>
<tr>
<td>-------------------</td>
<td>--------</td>
<td>------</td>
<td>--------</td>
<td>--------</td>
</tr>
<tr>
<td>/RefrigerationResURI</td>
<td></td>
<td>get</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### 6.20.6 CRUDN behaviour

<table>
<thead>
<tr>
<th></th>
<th>Freeze capability active.</th>
<th>Defrost capability active.</th>
<th>Indicates whether a defrost cycle is currently active.</th>
<th>Indicates whether the unit has a rapid cool capability active.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Defrost</td>
<td>boolean</td>
<td>yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RapidCool</td>
<td>boolean</td>
<td>yes</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Table 46 Refrigeration CRUDN operations

#### 6.21 Temperature

#### 6.21.1 Introduction

This resource describes a sensed or actuated Temperature value. The temperature describes the current value measured. The units is a single value that is one of C, F or K. It provides the unit of measurement for the temperature value. It is a read-only value that is provided by the server. If the units Property is missing the default is Celsius [C]. When range (from oic.r.baseresource) is omitted the default is +/- MAXINT.

#### 6.21.2 Example URI

/TemperatureResURI

#### 6.21.3 Resource Type

The resource type (rt) is defined as: oic.r.temperature.

#### 6.21.4 RAML Definition

```raml
#%RAML 0.8

title: OICTemperature

version: v1.1.0-20160519

traits:
  - interface:
      queryParameters:
        if:
          enum: ["oic.if.a", "oic.if.s", "oic.if.baseline"]

/temperatureResURI:

description: |
  This resource describes a sensed or actuated Temperature value.
  The temperature describes the current value measured.
  The units is a single value that is one of C, F or K.
  It provides the unit of measurement for the temperature value.
  It is a read-only value that is provided by the server.
  If the units Property is missing the default is Celsius [C].
  When range (from oic.r.baseresource) is omitted the default is +/- MAXINT.

is: ['interface']

get:

description: |
  Retrieves the current temperature value.
  A client can specify the units for the requested temperature by use of a query parameter.
  If no query parameter is provided the server provides its default measure or set value.
```
It is recommended to return always the units Property in the result.

queryParameters:

units:
  enum: CFK

responses:

200:
  body:
    application/json:
      schema:
        "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.temperature.json#",
        "$schema": "http://json-schema.org/draft-04/schema#",
        "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All rights reserved.",
        "title": "Temperature",
        "definitions": {
          "oic.r.temperature": {
            "type": "object",
            "properties": {
              "temperature": {
                "type": "number",
                "description": "Current temperature setting or measurement"
              },
              "units": {
                "type": "string",
                "enum": ["C","F","K"],
                "description": "Units for the temperature value",
                "readOnly": true
              }
            }
          }
        },
        "type": "object",
        "allOf": [
          {"$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},
          {"$ref": "#/definitions/oic.r.temperature"}
        ],
        "required": ["temperature"]
      
      example: {
        "rt": ["oic.r.temperature"],
        "id": "unique_example_id",
        "temperature": 20.0,
        "units": "C",
        "range": [0.0,100.0]
      }

403:

description: |
  This response is generated by the OIC Server when the client sends:
  A retrieve with q queryParameter indicating a unit that the server does not support.
  The server responds with the current resource representation including the units property illustrating the supported units and the error.

body:
  application/json:
    schema: |
      "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.temperature.json#",
      "$schema": "http://json-schema.org/draft-04/schema#"
"description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All rights reserved.",
  "title": "Temperature",
  "definitions": {
    "oic.r.temperature": {
      "type": "object",
      "properties": {
        "temperature": {
          "type": "number",
          "description": "Current temperature setting or measurement"
        },
        "units": {
          "type": "string",
          "enum": ["C","F","K"],
          "description": "Units for the temperature value",
          "readOnly": true
        }
      }
    }
  },
  "type": "object",
  "allOf": [
    {"$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},
    {"$ref": "#/definitions/oic.r.temperature"}
  ],
  "required": ["temperature"]
}

example: |
  |
  "id": "unique_example_id",
  "temperature": 20.0,
  "units": "C"

post:
  |
  description: |
  Sets the desired temperature value.
  If a unit is included and the server does not support the unit indicated the request will fail.
  If the units are omitted value is taken to be in C.

body:
  application/json:
    schema: |
      |
      "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.temperature.json#",
      "$schema": "http://json-schema.org/draft-04/schema#",
      "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All rights reserved.",
      "title": "Temperature",
      "definitions": {
        "oic.r.temperature": {
          "type": "object",
          "properties": {
            "temperature": {
              "type": "number",
              "description": "Current temperature setting or measurement"
            },
            "units": {
              "type": "string",
              "enum": ["C","F","K"],
              "description": "Units for the temperature value",
              "readOnly": true
            }
          }
        }
      }
"type": "object",
  "allOf": [
    {
      "$ref": "oic.baseResource.json#/definitions/oic.r.baseresource",
    }
  ],
  "required": ["temperature"]
}

example: |
|
  |
  "id": "unique_example_id",
  "temperature": 18.0
|

responses :
200:

  body: application/json:

    "type": "object",
    "allOf": [
      {
        "$ref": "oic.baseResource.json#/definitions/oic.r.baseresource",
      }
    ],
    "required": ["temperature"]
}

example: |
|
  |
  "id": "unique_example_id",
  "temperature": 18.0
|

403:

description: |
This response is generated by the OIC Server when the client sends:
An update with an out of range property value for temperature.
An update with an unsupported unit for this server.
The server responds with the current resource representation including
the range property illustrating the supported range and the error.
body:
application/json:
schema: |

   "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.temperature.json#",
   "$schema": "http://json-schema.org/draft-04/schema#",
   "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All
   rights reserved."
   "title": "Temperature",
   "definitions": {
      "oic.r.temperature": {
         "type": "object",
         "properties": {
            "temperature":  {
               "type": "number",
               "description": "Current temperature setting or measurement"
            },
            "units":  {
               "type": "string",
               "enum": ["C","F","K"],
               "description": "Units for the temperature value",
               "readOnly": true
            }
         }
      },
   "units": {  
      "type": "string",
      "enum": ["C","F","K"],
      "description": "Units for the temperature value",
      "readOnly": true
   }
   },
   "type": "object",
   "allOf": [
      {"$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},
      {"$ref": "#/definitions/oic.r.temperature"}
   ],
   "required": ["temperature"]
}
example: |

   {  
      "id": "unique_example_id",
      "temperature": 20.0,
      "units": "C",
      "range": [0.0,100.0]
   }

6.21.5 Property Definition

Table 47 Temperature Property Definitions

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>units</td>
<td>string</td>
<td></td>
<td>Read Only</td>
<td>Units for the temperature value</td>
</tr>
<tr>
<td>temperature</td>
<td>number</td>
<td>yes</td>
<td></td>
<td>Current temperature setting or measurement</td>
</tr>
</tbody>
</table>

6.21.6 CRUDN behaviour

Table 48 Temperature CRUDN operations

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/TemperatureResURI</td>
<td>get</td>
<td>post</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
6.22 Time Period

6.22.1 Introduction

This resource describes the time period over which any additionally provided information is derived or bounded. The startTime and stopTime are ISO8601 encoded strings. startTime must be present. The interval is the interval of the time period in minutes, if present this value must be no less than 1 minute. startTime and interval are mutually exclusive; both Properties cannot be present in a Resource instance.

6.22.2 Example URI

/TimePeriodResURI

6.22.3 Resource Type

The resource type (rt) is defined as: oic.r.time.period.

6.22.4 RAML Definition

```raml
#%RAML 0.8
title: OICTimePeriod
version: v1.1.0-20160519
traits:
  - interface:
    queryParameters:
      if:
        enum: ["oic.if.a", "oic.if.baseline"]

/TimePeriodResURI:

description: |
This resource describes the time period over which any additionally provided
information is derived or bounded. The startTime and stopTime are ISO8601 encoded strings
startTime must be present.
The interval is the interval of the time period in minutes, if present this value must be no
less than 1 minute.
stopTime and interval are mutually exclusive; both Properties cannot be present in a Resource
instance.

is: ['interface']
get:

description: |
Defines a time period for information retrieval, action or other behaviour.

responses:
200:
  body:
    application/json:
      schema: |

  
```

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"stopTime": {
    "type": "string",
    "description": "Stop time for the time period, if present interval cannot be present"
},

"interval": {
    "type": "integer",
    "description": "Time interval in minutes after the startTime, if present stopTime cannot be present"
}

"required": ["startTime"]
}

"type": "object",
"allOf": [
    {"$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},
    {"$ref": "#/definitions/oic.r.time.period"}
]


example: |

{
    "rt": ["oic.r.time.period"],
    "id": "unique_example_id",
    "startTime":"2015-01-09T14:30Z",
    "stopTime": "2015-01-09T14:45Z"
}

post:

description: |
Sets or updates a time period for information retrieval, action or other behavior.

body:
application/json:

  schema: |

    {
        "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.time.period.json#",
        "$schema": "http://json-schema.org/draft-04/schema#",
        "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All rights reserved.",
        "title": "Time Period",
        "definitions": {
            "oic.r.time.period": {
                "type": "object",
                "properties": {
                    "startTime": {
                        "type": "string",
                        "description": "Start time for the time period"
                    },
                    "stopTime": {
                        "type": "string",
                        "description": "Stop time for the time period, if present interval cannot be present"
                    },
                    "interval": {
                        "type": "integer",
                        "description": "Time interval in minutes after the startTime, if present stopTime cannot be present"
                    }
                },
                "required": ["startTime"]
            }
        }
    }

    "type": "object",
    "allOf": [
example: |

```
{
  "id": "unique_example_id",
  "startTime": "2015-01-09T14:30Z",
  "stopTime": "2015-01-09T14:45Z"
}
```

responses:

200:

body:

application/json:

schema: |

```
{
  "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.time.period.json#",
  "$schema": "http://json-schema.org/draft-04/schema#",
  "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All rights reserved."
}
```

```
"title": "Time Period",
"definitions": {
  "type": "object",
  "properties": {
    "startTime": {
      "type": "string",
      "description": "Start time for the time period"
    },
    "stopTime": {
      "type": "string",
      "description": "Stop time for the time period, if present interval cannot be present"
    },
    "interval": {
      "type": "integer",
      "description": "Time interval in minutes after the startTime, if present stopTime cannot be present"
    }
  },
  "required": ["startTime"]
}
```

6.22.5 Property Definition

Table 49 Time Period Property Definitions

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>stopTime</strong></td>
<td><strong>string</strong></td>
<td><strong>Stop time for the time period, if present interval cannot be present</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>startTime</strong></td>
<td><strong>string</strong></td>
<td><strong>Start time for the time period</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>interval</strong></td>
<td><strong>integer</strong></td>
<td><strong>Time interval in minutes after the startTime, if present stopTime cannot be present</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### 6.22.6 CRUDN behaviour

#### Table 50 Time Period CRUDN operations

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/TimePeriodResURI</td>
<td>get</td>
<td>post</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### 6.23 Activity Count

#### 6.23.1 Introduction

This resource specifies an activity count. The resource can be readonly (oic.if.s interface) in which instance it represents a count. The resource can be readwrite (oic.if.a interface) in which instance it represents a goal or target for a count. The count property is an integer representing either the current count or goal value.

#### 6.23.2 Example URI

/ActivityCountResURI

#### 6.23.3 Resource Type

The resource type (rt) is defined as: oic.r.sensor.activity.count.

#### 6.23.4 RAML Definition

```rml
#%RAML 0.8

title: OICActivityCount

version: v1.1.0-20160519

traits:
  - interface :
    queryParameters:
      if:
        enum: ["oic.if.s", "oic.if.a", "oic.if.baseline"]

/OActivityCountResURI:

description: |
This resource specifies an activity count.
The resource can be readonly (oic.if.s interface) in which instance it represents a count.
The resource can be readwrite (oic.if.a interface) in which instance it represents a goal or target for a count.
The count property is an integer representing either the current count or goal value.
is : ['interface']

get:

description: |
Retrieves the current activity count.
```
responses:
  200:
    body:
      application/json:
        schema:
        
  
        
        
        "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.sensor.activity.count.json#",
        "$schema": "http://json-schema.org/draft-04/schema#",
        "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All rights reserved.",
        "title": "Activity Count Sensor",
        "definitions": {
          "oic.r.sensor.activity.count": {
            "properties": {
              "count": {
                "type": "integer",
                "description": "Current or Target count."
              }
            }
          }
        },
        "type": "object",
        "allOf": [
          {"$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},
          {"$ref": "#/definitions/oic.r.sensor.activity.count"}
        ]
        
        example:
        
        
        
        
        
        
        
        
        
        ["oic.r.sensor.activity.count"],
        "id": "unique_example_id",
        "count": 2500
      
    post:
      description: |
      
      Sets the count target
      
      body:
      application/json:
      schema:
      
      
      "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.sensor.activity.count.json#",
      "$schema": "http://json-schema.org/draft-04/schema#",
      "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All rights reserved.",
      "title": "Activity Count Sensor",
      "definitions": {
        "oic.r.sensor.activity.count": {
          "properties": {
            "count": {
              "type": "integer",
              "description": "Current or Target count."
            }
          }
        }
      },
      "type": "object",
      "allOf": [
        {"$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},
        {"$ref": "#/definitions/oic.r.sensor.activity.count"}
      ]
"required": ["count"]
}

example: |
|
|
| "id": "unique_example_id",
| "count": 5000
|

responses:
200:
body: application/json:
schema: |
|
|
| "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.sensor.activity.count.json#",
| "$schema": "http://json-schema.org/draft-04/schema#",
| "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All
| rights reserved.",
| "title": "Activity Count Sensor",
| "definitions": |
| "oic.r.sensor.activity.count": |
| "properties": |
| "count": |
| "type": "integer",
| "description": "Current or Target count."
|
| example: |
|
| "id": "unique_example_id",
| "count": 5000
|

6.23.5 Property Definition

Table 51 Activity Count Property Definitions

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>count</td>
<td>integer</td>
<td>yes</td>
<td></td>
<td>Current or Target count.</td>
</tr>
</tbody>
</table>

6.23.6 CRUDN behaviour

Table 52 Activity Count CRUDN operations

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/ActivityCountResURI</td>
<td>get</td>
<td></td>
<td>post</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
6.24 Atmospheric Pressure Sensor

6.24.1 Introduction

This resource provides a measurement of Mean Sea Level Pressure experienced at the measuring point expressed in millibars. The value is float which describes the atmospheric pressure in hPa (hectoPascals). Note that hPa and the also commonly used unit of millibars (mbar) are numerically equivalent.

6.24.2 Example URI

/AtmosphericPressureResURI

6.24.3 Resource Type

The resource type (rt) is defined as: oic.r.sensor.atmosphericpressure.

6.24.4 RAML Definition

```yaml
#%RAML 0.8
title: OICAtmosphericPressureSensor
version: v1.1.0-20160519
traits:
  - interface :
    queryParameters:
      if:
        enum: ["oic.if.s", "oic.if.baseline"]

/AtmosphericPressureResURI:
  description: |
    This resource provides a measurement of Mean Sea Level Pressure experienced at the measuring point expressed in millibars. The value is float which describes the atmospheric pressure in hPa (hectoPascals). Note that hPa and the also commonly used unit of millibars (mbar) are numerically equivalent.
    
is : ['interface']

get:
  responses :
    200:
      body:
        application/json:
          schema:
            |
            "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.sensor.atmosphericPressure.json#",
            "$schema": "http://json-schema.org/draft-04/schema#",
            "description" : "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All rights reserved.",
            "title": "Atmospheric Pressure Sensor",
            "definitions": { "oic.r.sensor.atmosphericpressure": { "properties": { "atmosphericPressure": { "type": "number", "readOnly": true, "description": "Current atmospheric pressure in hPa." }, }, }, },
            "type": "object",
            "allOf": [ { "$ref": "oic.baseResource.json#definitions/oic.r.baseresource"}, { "$ref": "#/definitions/oic.r.sensor.atmosphericpressure" } ],
```

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"required": ["atmosphericPressure"]
}

example: |
{
  "rt": ["oic.r.sensor.atmosphericpressure"],
  "id": "unique_example_id",
  "atmosphericPressure": 1000.4
}

### 6.24.5 Property Definition

#### Table 53 Atmospheric Pressure Sensor Property Definitions

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>atmosphericPressure</td>
<td>number</td>
<td>yes</td>
<td>Read Only</td>
<td>Current atmospheric pressure in hPa.</td>
</tr>
</tbody>
</table>

### 6.24.6 CRUDN behaviour

#### Table 54 Atmospheric Pressure Sensor CRUDN operations

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/AtmosphericPressureResURI</td>
<td></td>
<td>get</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### 6.25 Audio Controls

#### 6.25.1 Introduction

This resource defines basic audio control functions. The volume is an integer containing a percentage [0,100]. A volume of 0 (zero) means no sound produced. A volume of 100 means maximum sound production. The mute control is implemented as a boolean. A mute value of true means that the device is muted (no audio). A mute value of false means that the device is not muted (audio).

#### 6.25.2 Example URI

/AudioResURI

#### 6.25.3 Resource Type

The resource type (rt) is defined as: oic.r.audio.

#### 6.25.4 RAML Definition

```yaml
#%RAML 0.8
title: OICAudio
version: v1.1.0-20160519
traits:
  - interface :
    queryParameters:
      if:
        enum: ["oic.if.a", "oic.if.baseline"]
```

/AudioResURI:

description: |
This resource defines basic audio control functions.
The volume is an integer containing a percentage [0,100].
A volume of 0 (zero) means no sound produced.
A volume of 100 means maximum sound production.
The mute control is implemented as a boolean.
A mute value of true means that the device is muted (no audio).
A mute value of false means that the device is not muted (audio).
is : ['interface']
get:
  responses :
    200:
      body: application/json:
        schema: |
          {
            "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.audio.json#",
            "$schema": "http://json-schema.org/draft-04/schema#",
            "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All rights reserved.",
            "definitions": {
              "oic.r.audio": {
                "type": "object",
                "properties": {
                  "volume": {
                    "type": "integer",
                    "description": "Volume setting of an audio rendering device.",
                    "minimum": 0,
                    "maximum": 100
                  },
                  "mute": {
                    "type": "boolean",
                    "description": "Mute setting of an audio rendering device"
                  }
                }
              }
            },
            "type": "object",
            "allOf": [
              {"$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},
              {"$ref": "#/definitions/oic.r.audio"}
            ],
            "required": ["volume","mute"]
          }
        example: |
          {
            "rt": ["oic.r.audio"],
            "id": "unique_example_id",
            "volume": 50,
            "mute": false
          }
post:
  body: application/json:
    schema: |
      {
        "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.audio.json#",
        "$schema": "http://json-schema.org/draft-04/schema#",
        "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All rights reserved.",
        "definitions": {
          "oic.r.audio": {
            "type": "object",
            "properties": {
              "volume": {
                "type": "integer",
                "description": "Volume setting of an audio rendering device.",
                "minimum": 0,
                "maximum": 100
              },
              "mute": {
                "type": "boolean",
                "description": "Mute setting of an audio rendering device"
              }
            }
          }
        }
      }
"type": "boolean",
"description": "Mute setting of an audio rendering device"
}
}
,
"type": "object",
"allOf": [
  {"$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},
  {"$ref": "#/definitions/oic.r.audio"}
],
"required": ["volume","mute"]
}
}

example: |
{
  "id": "unique_example_id",
  "volume": 75,
  "mute": false
}

responses :
200:
body
application/json:
schema: |
{
  "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.audio.json#",
  "$schema": "http://json-schema.org/draft-04/schema#",
  "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All rights reserved.",
  "definitions": {
    "oic.r.audio": {
      "type": "object",
      "properties": {
        "volume": {
          "type": "integer",
          "description": "Volume setting of an audio rendering device.",
          "minimum": 0,
          "maximum": 100
        },
        "mute": {
          "type": "boolean",
          "description": "Mute setting of an audio rendering device"
        }
      }
    }
  },
  "type": "object",
  "allOf": [
    {"$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},
    {"$ref": "#/definitions/oic.r.audio"}
  ],
  "required": ["volume","mute"]
}

example: |
{
  "id": "unique_example_id",
  "volume": 75,
  "mute": false
}
### 6.25.5 Property Definition

**Table 55 Audio Controls Property Definitions**

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>volume</td>
<td>integer</td>
<td>yes</td>
<td></td>
<td>Volume setting of an audio rendering device.</td>
</tr>
<tr>
<td>mute</td>
<td>boolean</td>
<td>yes</td>
<td></td>
<td>Mute setting of an audio rendering device</td>
</tr>
</tbody>
</table>

### 6.25.6 CRUDN behaviour

**Table 56 Audio Controls CRUDN operations**

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/AudioResURI</td>
<td></td>
<td>get</td>
<td></td>
<td></td>
<td>post</td>
</tr>
</tbody>
</table>

### 6.26 Auto Focus

#### 6.26.1 Introduction

This resource describes an auto focus on/off feature. The value is a boolean. An AutoFocus value of 'true' means that the switch is on. An AutoFocus value of 'false' means that the switch is off. Note that when Pan Tilt Zoom (see 'Pan Tilt Zoom' Resource definition) is used the autofocus works only in the selected area.

#### 6.26.2 Example URI

/AutoFocusResURI

#### 6.26.3 Resource Type

The resource type (rt) is defined as: oic.r.autofocus.

#### 6.26.4 RAML Definition

```yaml
#%RAML 0.8

title: OICAutoFocus
version: v1.1.0-20160519

traits:
- interface:
  queryParameters:
    if:
      enum: ["oic.if.a", "oic.if.baseline"]

/AutoFocusResURI:

description: |
  This resource describes an auto focus on/off feature.
  An AutoFocus value of 'true' means that the switch is on.
  An AutoFocus value of 'false' means that the switch is off.
  Note that when Pan Tilt Zoom (see 'Pan Tilt Zoom' Resource definition) is used the autofocus works only in the selected area.

  is: [{'interface'}]
  get:
    responses:
    200:
      body:
        application/json:
          schema: |
```

---

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6827     responses :
6828     200:
6829         body:
6830             application/json:
6831                 schema: |
6832                     |
6833                     |
6834                     |
6835                     |
6836                     |
6837                     |
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6842                     |
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6858                     |
6859                     |
6860                     |
6861                     |
6862 6.26.5 Property Definition
6863
6864 Table 57 Auto Focus Property Definitions
6865
<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>autoFocus</td>
<td>boolean</td>
<td>yes</td>
<td></td>
<td>Status of the Auto Focus</td>
</tr>
</tbody>
</table>
6866
6.26.6 CRUDN behaviour
6867
6868 Table 58 Auto Focus CRUDN operations
6869
<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/AutoFocusResURI</td>
<td>get</td>
<td>post</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
6870
6.27 Automatic Document Feeder
6871
6.27.1 Introduction
6872 This resource describes the state of an automatic document feeder, typically used with a scanner. The states are read only. The adfStates is an array of the possible operational states. adfProcessing is the OK state, other states are errors or require 'user attention'. The currentAdfState is the current value of the ADF state on the device.
6873
6.27.2 Example URI
6874 /AutomaticDocumentFeederResURI

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### 6.27.3 Resource Type

The resource type (rt) is defined as: oic.r.automaticdocumentfeeder.

### 6.27.4 RAML Definition

```text
#%RAML 0.8

title: OICAutomaticDocumentFeeder

version: v1.1.0-20160519

traits:
  - interface:
      queryParameters:
        if:
          enum: ['oic.if.s', 'oic.if.baseline']

/AutomaticDocumentFeederResURI:
  description: |
  This resource describes the state of an automatic document feeder, typically used with a scanner.
  The states are read only.
  The adfStates is an array of the possible operational states.
  The currentAdfState is the current value of the ADF state on the device.

  is: ['interface']

get:
  description: |
  Retrieves the current automatic document feeder state.

  responses:
  200:
    body:
      application/json:
        schema: |
        
        {"id": "http://openinterconnect.org/iotdata/models/schemas/oic.r.automaticDocumentFeeder.json#",
        "$schema": "http://json-schema.org/draft-04/schema#",
        "description" : "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All rights reserved.",
        "title": "Automatic Document Feeder",
        "definitions": {
          "oic.r.automaticdocumentfeeder": {
            "type": "object",
            "properties": {
              "adfStates": {"type": "array",
              "readOnly": true,
              "description": "array of the possible adf states.",
              "items": {"type": "string"}
              }
              },
            "currentAdfState": {"type": "string",
              "readOnly": true,
              "description": "Current adf state."}
            }
            }
        },
```

---

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6.27.5 Property Definition

Table 59 Automatic Document Feeder Property Definitions

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>adfStates</td>
<td>array: see schema</td>
<td>yes</td>
<td>Read Only</td>
<td>array of the possible adf states.</td>
</tr>
<tr>
<td>currentAdfState</td>
<td>string</td>
<td>yes</td>
<td>Read Only</td>
<td>Current adf state.</td>
</tr>
</tbody>
</table>

6.27.6 CRUDN behaviour

Table 60 Automatic Document Feeder CRUDN operations

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/AutomaticDocumentFeederResURI</td>
<td></td>
<td>get</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

6.28 Button Switch

6.28.1 Introduction

This resource describes the operation of a button style switch. The value is a boolean. A value of 'true' means that the button is being pushed/pressed. A value of 'false' means that the button is not being pushed/pressed.

6.28.2 Example URI

/ButtonResURI

6.28.3 Resource Type

The resource type (rt) is defined as: oic.r.button.

6.28.4 RAML Definition

```yaml
#%RAML 0.8

title: OICButton

version: v1.1.0-20160519

traits:
  - interface:
      queryParameters:
        if:
          enum: ["oic.if.s", "oic.if.baseline"]
```

/ButtonResURI:

description: | This resource describes the operation of a button style switch. The value is a boolean. A value of 'true' means that the button is being pushed/pressed.
A value of 'false' means that the button is not being pushed/pressed.

is : ['interface']

get:

responses:

200:

body:

application/json:

schema:

{
  "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.button.json#",
  "$schema": "http://json-schema.org/draft-04/schema#",
  "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All rights reserved.",
  "title": "Button Switch",
  "definitions": {
    "oic.r.button": {
      "properties": {
        "value": {
          "type": "boolean",
          "readOnly": true,
          "description": "Status of the button"
        }
      }
    }
  },
  "type": "object",
  "allOf": [
    {"$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},
    {"$ref": "#/definitions/oic.r.button"}
  ],
  "required": ["value"
  }]

example:

{
  "rt": ["oic.r.button"],
  "id": "unique_example_id",
  "value": true
}

6.28.5 Property Definition

Table 61 Button Switch Property Definitions

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>value</td>
<td>boolean</td>
<td>yes</td>
<td>Read Only</td>
<td>Status of the button</td>
</tr>
</tbody>
</table>

6.28.6 CRUDN behaviour

Table 62 Button Switch CRUDN operations

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/ButtonResURI</td>
<td>get</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

6.29 Carbon Dioxide Sensor

6.29.1 Introduction

This resource describes whether carbon dioxide has been sensed or not. The value is a boolean.

A value of 'true' means that carbon dioxide has been detected. A value of 'false' means that carbon dioxide has not been detected.
6.29.2 Example URI

/CarbonDioxideResURI

6.29.3 Resource Type

The resource type (rt) is defined as: oic.r.sensor.carbondioxide.

6.29.4 RAML Definition

```rml
#%RAML 0.8

title: OICCarbonDioxideSensor

version: v1.1.0-20160519

traits:
- interface:
    queryParameters:
      if:
        enum: ["oic.if.s", "oic.if.baseline"]

/CarbonDioxideResURI:

description: |
  This resource describes whether carbon dioxide has been sensed or not.
  The value is a boolean.
  A value of 'true' means that carbon dioxide has been detected.
  A value of 'false' means that carbon dioxide has not been detected.

  is: ['interface']

  get:
    responses:
      200:
        body:
          application/json:
            schema: |
              |

```

```json
    "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.sensor.carbonDioxide.json#",
    "$schema": "http://json-schema.org/draft-04/schema#",
    "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All rights reserved."

    "title": "Carbon Dioxide Sensor",
    "definitions": {
      "oic.r.sensor.carbondioxide": {
        "allOf": [
          "$ref": "oic.r.sensor.json#/definitions/oic.r.sensor",
          "$ref": "#/definitions/oic.r.baseresource",
          "$ref": "#definitions/oic.r.sensor.carbondioxide"
        ],
        "required": ["value"]
      }
    }

  example: |

  "rt": ["oic.r.sensor.carbondioxide"],
  "id": "unique_example_id",
  "value": true
```
6.29.5 Property Definition

Table 63 Carbon Dioxide Sensor Property Definitions

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>value</td>
<td>boolean</td>
<td>yes</td>
<td>Read Only</td>
<td>True = Sensed, False = Not Sensed.</td>
</tr>
</tbody>
</table>

6.29.6 CRUDN behaviour

Table 64 Carbon Dioxide Sensor CRUDN operations

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/CarbonDioxideResURI</td>
<td>get</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

6.30 Carbon Monoxide Sensor

6.30.1 Introduction

This resource describes whether carbon monoxide has been sensed or not. The value is a boolean. A value of 'true' means that carbon monoxide has been detected. A value of 'false' means that carbon monoxide has not been detected.

6.30.2 Example URI

/CarbonMonoxideResURI

6.30.3 Resource Type

The resource type (rt) is defined as: oic.r.sensor.carbonmonoxide.

6.30.4 RAML Definition

```yaml
#%RAML 0.8
title: OICCarbonMonoxideSensor
version: v1.1.0-20160519
traits:
  - interface:
      queryParameters:
        if:
          enum: ["oic.if.s", "oic.if.baseline"]

/CarbonMonoxideResURI:
  description: |
    This resource describes whether carbon monoxide has been sensed or not. The value is a boolean. A value of 'true' means that carbon monoxide has been detected. A value of 'false' means that carbon monoxide has not been detected.

  is: ['interface']
  get:
    responses:
    200:
      body:
        application/json:
          schema: |
            
"http://openinterconnect.org/iotdatamodels/schemas/oic.r.sensor.carbonMonoxide.json#",
"$schema": "http://json-schema.org/draft-04/schema#",
"$description" : "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All rights reserved.",
"title": "Carbon Monoxide Sensor",
```
"definitions": {
  "oic.r.sensor.carbonmonoxide": {
    "allOf": [
      {
        "$ref": "oic.r.sensor.json#/definitions/oic.r.sensor"
      }
    ],
    "type": "object",
    "allOf": [
      {
        "$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"
      },
      {
        "$ref": "#/definitions/oic.r.sensor.carbonmonoxide"
      }
    ],
    "required": ["value"]
  }
},

example: |
{
  "rt": ["oic.r.sensor.carbonmonoxide"],
  "id": "unique_example_id",
  "value": true
}

6.30.5 Property Definition

Table 65 Carbon Monoxide Sensor Property Definitions

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>value</td>
<td>boolean</td>
<td>yes</td>
<td>Read Only</td>
<td>True = Sensed, False = Not Sensed.</td>
</tr>
</tbody>
</table>

6.30.6 CRUDN behaviour

Table 66 Carbon Monoxide Sensor CRUDN operations

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/CarbonMonoxideResURI</td>
<td>get</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

6.31 Auto White Balance

6.31.1 Introduction

This resource describes an auto balance on/off feature. The value is a boolean. An AutoWhiteBalance value of 'true' means that the switch is on. An AutoWhiteBalance value of 'false' means that the switch is off.

6.31.2 Example URI

/AutoWhiteBalanceResURI

6.31.3 Resource Type

The resource type (rt) is defined as: oic.r.colour.autowhitebalance.

6.31.4 RAML Definition

```yaml
#%RAML 0.8
title: OICAutoWhiteBalance
version: v1.0-20160519
traits:
  - interface :
    queryParameters:
      if:
        enum: ["oic.if.a", "oic.if.baseline"]
/AutoWhiteBalanceResURI:
```
This resource describes an auto balance on/off feature.

An AutoWhiteBalance value of 'true' means that the switch is on.
An AutoWhiteBalance value of 'false' means that the switch is off.

is : ['interface']

get:
  responses :
    200:
      body:
        application/json:
          schema: |

          "id":

          "http://openinterconnect.org/iotdatamodels/schemas/oic.r.colour.autowhitebalance.json#",
          "$schema": "http://json-schema.org/draft-04/schema#",
          "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All rights reserved.",
          "title": "Auto White Balance",
          "definitions": {
            "oic.r.colour.autowhitebalance": {
              "type": "object",
              "properties": {
                "autoWhiteBalance": {
                  "type": "boolean",
                  "description": "Status of the Auto White balance"
                }
              }
            }
          }

          "allOf": [
            "$ref": "oic.baseResource.json#/definitions/oic.r.baseresource",
            "$ref": "#/definitions/oic.r.colour.autowhitebalance"
          ],
          "required": [ "autoWhiteBalance" ]

          example: |

          {
            "rt":       ["oic.r.colour.autowhitebalance"],
            "id":       "unique_example_id",
            "autoWhiteBalance": false
          }

post:
  body:
    application/json:
      schema: |

      "id":

      "http://openinterconnect.org/iotdatamodels/schemas/oic.r.colour.autowhitebalance.json#",
      "$schema": "http://json-schema.org/draft-04/schema#",
      "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All rights reserved.",
      "title": "Auto White Balance",
      "definitions": {
        "oic.r.colour.autowhitebalance": {
          "type": "object",
          "properties": {
            "autoWhiteBalance": {
              "type": "boolean",
              "description": "Status of the Auto White balance"
            }
          }
        }
      }

      example: |

      {
        "rt":       ["oic.r.colour.autowhitebalance"],
        "id":       "unique_example_id",
        "autoWhiteBalance": false
      }
"type": "object",
"allOf": [
    {$ref: "oic.baseResource.json#/definitions/oic.r.baseresource"},
    {$ref: "#/definitions/oic.r.colour.autowhitebalance"}
],
"required": [ "autoWhiteBalance" ]
}

example: |
{
    "id": "unique_example_id",
    "autoWhiteBalance": true
}

responses :
200:

body: application/json:

    schema: |
    {
    "id":
"http://openinterconnect.org/iotdatamodels/schemas/oic.r.colour.autowhitebalance.json#",
"$schema": "http://json-schema.org/draft-04/schema#",
"description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All
rights reserved.",
"title": "Auto White Balance",
"definitions": {
    "oic.r.colour.autowhitebalance": {
        "type": "object",
        "properties": {
            "autoWhiteBalance": {
                "type": "boolean",
                "description": "Status of the Auto White balance"
            }
        }
    }
    }
    }
    }
    }
    "type": "object",
    "allOf": [
    {$ref: "oic.baseResource.json#/definitions/oic.r.baseresource"},
    {$ref: "#/definitions/oic.r.colour.autowhitebalance"}
    ],
    "required": [ "autoWhiteBalance" ]
    }
    }
    example: |
    {
    "id": "unique_example_id",
    "autoWhiteBalance": true
    }
    }

### 6.31.5 Property Definition

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>autoWhiteBalance</td>
<td>boolean</td>
<td>yes</td>
<td></td>
<td>Status of the Auto White balance</td>
</tr>
</tbody>
</table>
6.31.6 CRUDN behaviour

Table 68 Auto White Balance CRUDN operations

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/AutoWhiteBalanceResURI</td>
<td>get</td>
<td>post</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

6.32 Colour Saturation

6.32.1 Introduction

This resource describes a Colour saturation value. The value is an integer. A colour saturation has a range of [0, 100]. A colour saturation value of 0 means producing black and white images. A colour saturation value of 50 means producing device specific normal colour images. A colour saturation value of 100 means producing device very full colour images.

6.32.2 Example URI

/ColourSaturationResURI

6.32.3 Resource Type

The resource type (rt) is defined as: oic.r.colour.saturation.

6.32.4 RAML Definition

```raml
#%RAML 0.8

title: OICColourSaturation
version: v1.1.0-20160519

traits:
  - interface:
    queryParameters:
      if:
        enum: ["oic.if.a", "oic.if.baseline"]

/ColourSaturationResURI:

description: |
  This resource describes a Colour saturation value.
  The value is an integer.
  A colour saturation has a range of [0, 100].
  A colour saturation value of 0 means producing black and white images.
  A colour saturation value of 50 means producing device specific normal colour images.
  A colour saturation value of 100 means producing device very full colour images.

is: ["interface"]

get:

  responses:

    200:

      body:
        application/json:

          schema: |

            |

          "id": "http://openinterconnect.org/iotdataprotocols/schemas/oic.r.colour.saturation.json#",
          "$schema": "http://json-schema.org/draft-04/schema#",
          "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All rights reserved.",
          "title": "Colour Saturation",
          "definitions": {
            "oic.r.colour.saturation": {
              "type": "object",
              "properties": {
                "colourSaturation": {
                  "type": "integer",
                }
              }
            }
          }
```

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"description": "The colour saturation value",
"minimum": 0,
"maximum": 100
}]

"required": [
  "colourSaturation"
]

example: |

  
  {"id": "unique_example_id",
   "colourSaturation": 60
  }

post:
body:
application/json:
schema: |

  
  {"id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.colour.saturation.json#",
   "$schema": "http://json-schema.org/draft-04/schema#",
   "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All rights reserved."
  }
  
  "title": "Colour Saturation",
  "definitions": {
    "oic.r.colour.saturation": {
      "type": "object",
      "properties": {
        "colourSaturation": {
          "type": "integer",
          "description": "The colour saturation value",
          "minimum": 0,
          "maximum": 100
        }
      }
    }
  }

example: |

  
  {"id": "unique_example_id",
   "colourSaturation": 60
  }

responses :
 200:
body:
application/json:

```json
{
  "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.colour.saturation.json#",
  "$schema": "http://json-schema.org/draft-04/schema#",
  "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All rights reserved."
}
```

title: "Colour Saturation",

definitions: {
  "oic.r.colour.saturation": {
    "type": "object",
    "properties": {
      "colourSaturation": {
        "type": "integer",
        "description": "The colour saturation value",
        "minimum": 0,
        "maximum": 100
      }
    }
  }
},

type: "object",

allOf: [
  {"$ref": "oic.core.json#/definitions/oic.core"},
  {"$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},
  {"$ref": "#/definitions/oic.r.colour.saturation"}
],

required: [ "colourSaturation" ]

example: |

  { "id": "unique_example_id",
    "colourSaturation": 60
  }

6.3.2.5 Property Definition

Table 69 Colour Saturation Property Definitions

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>colourSaturation</td>
<td>integer</td>
<td>yes</td>
<td></td>
<td>The colour saturation value</td>
</tr>
</tbody>
</table>

6.3.2.6 CRUDN behaviour

Table 70 Colour Saturation CRUDN operations

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/ColourSaturationResURI</td>
<td></td>
<td>get</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

6.33 Contact Sensor

6.33.1 Introduction

This resource describes whether a contact sensor has been tripped or not. Typical use case is in Security Systems detecting window or door open. The value is a boolean. A value of 'true' means that contact has been broken (open). A value of 'false' means that contact is in place (closed).

6.33.2 Example URI

/ContactResURI

6.33.3 Resource Type

The resource type (rt) is defined as: oic.r.sensor.contact.
### 6.3.3.4 RAML Definition

```
#%RAML 0.8

title: OICContactSensor
version: v1.1.0-20160519

traits:
  - interface:
      queryParameters:
        if: enum: ["oic.if.s", "oic.if.baseline"]

/contactResURI:
  description: |
  This resource describes whether a contact sensor has been tripped or not.
  Typical use case is in Security Systems detecting window or door open.
  The value is a boolean.
  A value of 'true' means that contact has been broken (open).
  A value of 'false' means that contact is in place (closed).

  is: ['interface']

  get:
    responses:
      200:
        body:
          application/json:
            schema: |
              { "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.sensor.contact.json#",
                "$schema": "http://json-schema.org/draft-04/schema#",
                "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All rights reserved.
                "title": "Contact Sensor",
                "definitions": |
                  "oic.r.sensor.contact": |
                    "allOf": ["$ref": "oic.r.sensor.json#/definitions/oic.r.sensor"]
                  |
                "type": "object",
                "allOf": [
                  |"$ref": "oic.baseResource.json#/definitions/oic.r.baseresource",
                  |"$ref": "#/definitions/oic.r.sensor.contact"
                  |
                "required": ["value"]
              |
              example: |
              |
              |

```

### 6.3.3.5 Property Definition

#### Table 71 Contact Sensor Property Definitions

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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### 6.33.6 CRU DN behaviour

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/ContactResURI</td>
<td></td>
<td>get</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Table 72 Contact Sensor CRU DN operations

<table>
<thead>
<tr>
<th>CRU DN behaviour</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>True = Sensed, False = Not Sensed.</td>
<td></td>
</tr>
</tbody>
</table>

#### 6.34 Demand Response Load Control (DRLC).

### 6.34.1 Introduction

This resource describes any to be applied or currently being applied DRLC signal. The DRType is the ApplianceLoadReductionType defined in Zigbee/HA Smart Energy Profile 2.0. Start is a string containing an ISO8601 encoded start time. The duration value is in minutes. Override indicates whether the consumer has overridden the request (true) or not (false).

### 6.34.2 Example URI

/DRLCResURI

### 6.34.3 Resource Type

The resource type (rt) is defined as: oic.r.energy.drlc.

### 6.34.4 RAML Definition

```raml
#%RAML 0.8

title: OICDRLC
version: v1.1.0-20160519
traits:
  - interface :
    
queryParameters:
  if:
    
enum: ["oic.if.b", "oic.if.baseline"]

/DRLCResURI:

description: |
  This resource describes any to be applied or currently being applied DRLC signal.
  The DRType is the ApplianceLoadReductionType defined in Zigbee/HA Smart Energy Profile 2.0.
  Start is a string containing an ISO8601 encoded start time.
  The duration value is in minutes.
  Override indicates whether the consumer has overridden the request (true) or not (false).

  is : ['interface']

get:
  
description: |
  Provides the current DRLC action that is being applied.

responses :
  200:
    body:
      application/json:
        schema: |
          |

"id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.energy.drlc.json#",
"$schema": "http://json-schema.org/draft-04/schema#",
"description" : "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All rights reserved.",
"definitions": |
```
"oic.r.energy.drlc": {  
  "type": "object",  
  "properties": {  
    "DRType": {  
      "type": "integer",  
      "description": "The to be applied demand-response type"  
    },  
    "start": {  
      "type": "string",  
      "description": "The start time for the application of DR"  
    },  
    "duration": {  
      "type": "integer",  
      "description": "The duration of the to be applied DR type"  
    },  
    "override": {  
      "type": "boolean",  
      "description": "Whether the consumer has overriden the application of DR"  
    }  
  }  
},  
"type": "object",  
"allOf": [{ "$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},  
{ "$ref": "#/definitions/oic.r.energy.drlc"}  
],  
"required": ["DRType"]  
}  
}

example: |

{  
  "rt": ["oic.r.energy.drlc"],  
  "id": "unique_example_id",  
  "DRType": 1,  
  "start": "2015-01-09T16:45Z",  
  "duration": 10,  
  "override": false  
}

put:  

description: |  
Provides the DRLC action to be applied to the device or updates an existing action.

body:  
application/json:  

  schema: |

{  
  "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.energy.drlc.json#",  
  "$schema": "http://json-schema.org/draft-04/schema#",  
  "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All rights reserved.",  
  "definitions": {  
    "oic.r.energy.drlc": {  
      "type": "object",  
      "properties": {  
        "DRType": {  
          "type": "integer",  
          "description": "The to be applied demand-response type"  
        },  
        "start": {  
          "type": "string",  
          "description": "The start time for the application of DR"  
        },  
        "duration": {  
          "type": "integer",  
          "description": "The duration of the to be applied DR type"  
        }  
      }  
    }  
  }  
}  

"override": {
  "type": "boolean",
  "description": "Whether the consumer has overridden the application of DR"
}
}

example: |
{
  "rt": ["oic.r.energy.drlc"],
  "id": "unique_example_id",
  "DRType": 1,
  "start": "2015-01-09T16:45Z",
  "duration": 10
}

responses:
200:
  description: |
  Indicates that the target DRLC resource was changed.
  The new resource attributes are provided in the response.
  
  body:
  application/json:
  
  schema: |
  {
    "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.energy.drlc.json#",
    "$schema": "http://json-schema.org/draft-04/schema#",
    "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All
    rights reserved.
    
    definitions": |
    "oic.r.energy.drlc": |
    "type": "object",
    "properties": |
    "DRType": |
    "type": "integer",
    "description": "The to be applied demand-response type"
  },
  "start": |
  "type": "string",
  "description": "The start time for the application of DR"
  },
  "duration": |
  "type": "integer",
  "description": "The duration of the to be applied DR type"
  },
  "override": |
  "type": "boolean",
  "description": "Whether the consumer has overridden the application of DR"
}
"required": ["DRType"]
    }

example: |

    |
    "DRType": 1,
    "id": "unique_example_id",
    "start": "2015-01-09T17:00Z",
    "duration": 15,
    "override": false
    |

201:

description: |

    Indicates successful creation of the DRLC resource with the attributes provided.
The response includes the URI of the created resource.

body:

    application/json:

        schema: |

            |
            "id": "http://openinterconnect.org/iotdatamodels/chemas/oic.create.json#",
            "$schema": "http://json-schema.org/draft-04/schema#",
            "description": "Copyright (c) 2016 Open Connectivity Foundation, Inc. All rights
            reserved.",
            "definitions": { |
            "oic.create": { |
                "type": "object",
                "properties": { |
                    "ResURI": { "type": "string"}
                }
            }
            }
            |
            "type": "object",
            "allOf": |
            |
            |
            "$ref": "#/definitions/oic.create"
            |
            }
            |

example: |

    |
    "ResURI": "/MyDevice/MyDRLCURI"
    |

6.34.5 Property Definition

Table 73 Demand Response Load Control (DRLC). Property Definitions

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>DRType</td>
<td>integer</td>
<td>yes</td>
<td></td>
<td>The to be applied demand-response type</td>
</tr>
<tr>
<td>start</td>
<td>string</td>
<td></td>
<td></td>
<td>The start time for the application of DR</td>
</tr>
<tr>
<td>duration</td>
<td>integer</td>
<td></td>
<td></td>
<td>The duration of the to be applied DR type</td>
</tr>
<tr>
<td>override</td>
<td>boolean</td>
<td></td>
<td></td>
<td>Whether the consumer has</td>
</tr>
</tbody>
</table>

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6.34.6 CRUDN behaviour

Table 74 Demand Response Load Control (DRLC). CRUDN operations

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/DRLCResURI</td>
<td>put</td>
<td>get</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

6.35 Energy Overload/Circuit Breaker

6.35.1 Introduction

This resource describes whether an energy overload detector/circuit breaker is currently tripped. The value is a boolean. A value of 'true' means that energy overload has been tripped. A value of 'false' means that energy overload has not been tripped.

6.35.2 Example URI

/EnergyOverloadResURI

6.35.3 Resource Type

The resource type (rt) is defined as: oic.r.energy.overload.

6.35.4 RAML Definition

```RAML 0.8
#%RAML 0.8
title: OICEnergyOverload
version: v1.1.0-20160519

traits:
- interface:
  queryParameters:
  if:
    enum: ["oic.if.s", "oic.if.baseline"]

/EnergyOverloadResURI:

description: |
This resource describes whether an energy overload detector/circuit breaker is currently tripped.
The value is a boolean.
A value of 'true' means that energy overload has been tripped.
A value of 'false' means that energy overload has not been tripped.

is : ['interface']

get:
responses:
200:
  body:
    application/json:
    schema: |
    {
      "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.energy.overload.json#",
      "$schema": "http://json-schema.org/draft-04/schema#",
      "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All rights reserved."
    }
```

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6.35.5 Property Definition

Table 75 Energy Overload/Circuit Breaker Property Definitions

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>value</td>
<td>boolean</td>
<td>yes</td>
<td>Read Only</td>
<td>True = Sensed, False = Not Sensed.</td>
</tr>
</tbody>
</table>

6.35.6 CRUDN behaviour

Table 76 Energy Overload/Circuit Breaker CRUDN operations

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/EnergyOverloadResURI</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

6.36 Generic Sensor

6.36.1 Introduction

This resource describes whether some value or property or entity has been sensed or not. The value is a boolean. A value of 'true' means that the target has been sensed. A value of 'false' means that the target has not been sensed.

6.36.2 Example URI

/GenericSensorResURI

6.36.3 Resource Type

The resource type (rt) is defined as: oic.r.sensor.

6.36.4 RAML Definition

```yaml
{%RAML 0.8

title: OICGenericSensor
version: v1.1.0-20160519
traits:
  - interface:
    queryParameters:
    if:
      enum: ["oic.if.s", "oic.if.baseline"]
/GenericSensorResURI:

description: |
  This resource describes whether some value or property or entity has been sensed or not.
  The value is a boolean.
  A value of 'true' means that the target has been sensed.
```
A value of 'false' means that the target has not been sensed.

is : ['interface']

get:
  responses :
    200:
      body:
        application/json:
          schema: |
            "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.sensor.json#",
            "$schema": "http://json-schema.org/draft-04/schema#",
            "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All rights reserved.",
            "title": "Generic Sensor",
            "definitions": {
              "oic.r.sensor": {
                "type": "object",
                "properties": {
                  "value": {
                    "type": "boolean",
                    "readOnly": true,
                    "description": "true = sensed, false = not sensed."
                  }
                }
              }
            },
            "type": "object",
            "allOf": [
              {"$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},
              {"$ref": "#/definitions/oic.r.sensor"}
            ]
          example: |
            {"rt": ["oic.r.sensor"],
             "id": "unique_example_id",
             "value": true}

6.36.5 Property Definition

Table 77 Generic Sensor Property Definitions

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>value</td>
<td>boolean</td>
<td></td>
<td>Read Only</td>
<td>true = sensed, false = not sensed.</td>
</tr>
</tbody>
</table>

6.36.6 CRUDN behaviour

Table 78 Generic Sensor CRUDN operations

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/GenericSensorResURI</td>
<td>get</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

6.37 Glass Break Sensor

6.37.1 Introduction

This resource describes a glass break sensor. The value is a boolean. A value of 'true' means that glass break has been sensed. A value of 'false' means that glass break not been sensed.
6.37.2 Example URI
/GlassBreakResURI
6.37.3 Resource Type
The resource type (rt) is defined as: `oic.r.sensor.glassbreak`.
6.37.4 RAML Definition
```xml
#%RAML 0.8
title: OICGlassBreakSensor
version: v1.1.0-20160519
traits:
  - interface :
    queryParameters:
      if:
        enum: ["oic.if.s", "oic.if.baseline"]

/GlassBreakResURI:
  description: |
    This resource describes a glass break sensor.
    The value is a boolean.
    A value of 'true' means that glass break has been sensed.
    A value of 'false' means that glass break not been sensed.
    is : ['interface']
  get:
    responses :
      200:
        body: application/json:
          schema: |
            {"id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.sensor.glassBreak.json#",
             "$schema": "http://json-schema.org/draft-04/schema#",
             "description" : "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All rights reserved.",
             "title": "Glass Break Sensor",
             "definitions": {
               "oic.r.sensor.glassbreak": { 
                 "allOf": ["$ref": "oic.r.sensor.json#/definitions/oic.r.sensor"]
               }
             }
          }
        example: |
          {"rt": ["oic.r.sensor.glassbreak"],
           "id": "unique_example_id",
           "value": true
          }
```
### 6.37.5 Property Definition

#### Table 79 Glass Break Sensor Property Definitions

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>value</td>
<td>boolean</td>
<td>yes</td>
<td>Read Only</td>
<td>True = Sensed, False = Not Sensed</td>
</tr>
</tbody>
</table>

### 6.37.6 CRUDN behaviour

#### Table 80 Glass Break Sensor CRUDN operations

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/GlassBreakResURI</td>
<td>get</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### 6.38 Heart Rate Zone

#### 6.38.1 Introduction

This resource describes a measured heart rate by the current Zone using the Zoladz method. The Zoladz method defines Zones based on maximum heart rate; Zone 1 is the lowest, Zone 5 is the highest. The heartRateZone is an enumeration containing one of: "Zone1", "Zone2", "Zone3", "Zone4", "Zone5".

#### 6.38.2 Example URI

/HeartRateZoneResURI

#### 6.38.3 Resource Type

The resource type (rt) is defined as: oic.r.sensor.heart.zone.

#### 6.38.4 RAML Definition

```raml
#%RAML 0.8
title: OICHeartRateZone
version: v1.1.0-20160519
traits:
  - interface:
    queryParameters:
      if:
        enum: ["oic.if.s", "oic.if.baseline"]

/HeartRateZoneResURI:
  description: |
    This resource describes a measured heart rate by the current Zone using the Zoladz method. The Zoladz method defines Zones based on maximum heart rate; Zone 1 is the lowest, Zone 5 is the highest. The heartRateZone is an enumeration containing one of: "Zone1", "Zone2", "Zone3", "Zone4", "Zone5".
  get:
    responses:
      200:
        body:
          application/json:
            schema: |
              |
"http://openinterconnect.org/iotdatamodels/schemas/oic.r.sensor.heart.zone.json#", "$schema": "http://json-schema.org/draft-04/schema#",
```
"description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All rights reserved.",
"title": "Heart Rate Zone",
"definitions": {
  "oic.r.sensor.heart.zone": {
    "properties": {
      "heartRateZone": {
        "type": "string",
        "enum": ["Zone1", "Zone2", "Zone3", "Zone4", "Zone5"],
        "readOnly": true,
        "description": "Current heart rate zone based on the Zoladz system."
      }
    }
  }
}

"allOf": [
  {
    "$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"
  },
  {
    "$ref": "#/definitions/oic.r.sensor.heart.zone"
  }
]
"required": ["heartRateZone"]

example: |
{
  "rt": ["oic.r.sensor.heart.zone"],
  "id": "unique_example_id",
  "heartRateZone": "Zone3"
}

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>heartRateZone</td>
<td>string</td>
<td>yes</td>
<td>Read Only</td>
<td>Current heart rate zone based on the Zoladz system.</td>
</tr>
</tbody>
</table>

**6.38 CRUDN behaviour**

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/HeartRateZoneResURI</td>
<td></td>
<td>get</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**6.39 Illuminance Sensor**

**6.39.1 Introduction**

This resource describes an illuminance sensor. Illuminance is a float and represents the sensed luminous flux per unit area in lux.

**6.39.2 Example URI**

/IlluminanceSensorResURI

**6.39.3 Resource Type**

The resource type (rt) is defined as: oic.r.sensor.illuminance.

**6.39.4 RAML Definition**

```RAML
#%RAML 0.8
title: OICIlluminanceSensor
version: v1.1.0-20160519
traits:
```
interface:
  queryParameters:
    if:
      enum: ["oic.if.s", "oic.if.baseline"]
/IlluminanceSensorResURI:
  description: |
  This resource describes an illuminance sensor.
  Illuminance is a float and represents the sensed luminous flux per unit area in lux.

  is: ["interface"]
get:
  responses:
    200:
      body: application/json:
        schema: |
        
  type: "object",
  allOf: [
    {"$ref": "http://json-schema.org/draft-04/schema#"},
    {"$ref": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.sensor.illuminance.json#", "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All rights reserved.", "title": "Illuminance Sensor", "definitions": { "oic.r.sensor.illuminance": { "properties": { "illuminance": { "type": "number", "readOnly": true, "description": "Sensed luminous flux per unit area in lux." } } } }, "required": ["illuminance"] }

  example: |
  
  { "rt": ["oic.r.sensor.illuminance"], "id": "unique_example_id", "illuminance": 450.0 }

6.39.5 Property Definition

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>illuminance</td>
<td>number</td>
<td>yes</td>
<td>Read Only</td>
<td>Sensed luminous flux per unit area in lux.</td>
</tr>
</tbody>
</table>
6.39.6  CRUDN behaviour

Table 84 Illuminance Sensor CRUDN operations

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/IlluminanceSensorResURI</td>
<td></td>
<td>get</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

6.40  Magnetic Field Direction Sensor

6.40.1  Introduction

This resource describes the direction of the Earth’s magnetic field at the observer’s current point in space. Typical use case includes measurement of compass readings on a personal device. The value is an array containing Hx, Hy, Hz (in that order) each of which are floats. Each of Hx, Hy and Hz are expressed in A/m (Amperes per metre).

6.40.2  Example URI

/MagneticFieldDirectionResURI

6.40.3  Resource Type

The resource type (rt) is defined as: oic.r.sensor.magneticfielddirection.

6.40.4  RAML Definition

```RAML
#%RAML 0.8
title: OICMagneticFieldDirection
version: v1.1.0-20160519
traits:
  - interface:
    queryParameters:
      if:
        enum: ["oic.if.s", "oic.if.baseline"]
/MagneticFieldDirectionResURI:
  description: |
    This resource describes the direction of the Earth’s magnetic field at the observer's current point in space.
    Typical use case includes measurement of compass readings on a personal device.
    The value is an array containing Hx, Hy, Hz (in that order) each of which are floats.
    Each of Hx, Hy and Hz are expressed in A/m (Amperes per metre)

is : ['interface']
get:
  responses:
    200:
      body:
        application/json:
          schema: |

"http://openinterconnect.org/iotdatamodels/schemas/oic.r.sensor.magneticFieldDirection.json#",
"$schema": "http://json-schema.org/draft-04/schema#",
"description" : "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All rights reserved.",
"title": "Magnetic Field Direction Sensor",
"definitions": |
"oic.r.sensor.magneticfielddirection": |
"properties": |
"value": |
"type": "array",
"readOnly": true,
"description": "Array containing Hx, Hy, Hz."
```
Example:

```
{
  "rt": ["oic.r.sensor.magneticfielddirection"],
  "id": "unique_example_id",
  "value": [100.0, 15.0, 90.0]
}
```

### 6.40.5 Property Definition

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>value</td>
<td>array: see schema</td>
<td>yes</td>
<td>Read Only</td>
<td>Array containing Hx, Hy, Hz.</td>
</tr>
</tbody>
</table>

### 6.40.6 CRUDN behaviour

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/MagneticFieldDirectionResURI</td>
<td>get</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### 6.41 Media

#### 6.41.1 Introduction

This resource specifies the media types that an OCF Server supports. The resource is an array of media elements. Each element contains: A URL at which the specified media type can be accessed. A string array containing the definition of the media using SDP. Each entry in the sdp array is an SDP line. Each line shall follow the SDP description syntax as defined in the SDP specification. The SDP specification can be found at http://tools.ietf.org/html/rfc4566.

#### 6.41.2 Example URI

/ResourceType

#### 6.41.3 Resource Type

The resource type (rt) is defined as: oic.r.media.

#### 6.41.4 RAML Definition

```
#%RAML 0.8

title: OICMedia
version: v1.1.0-20160519

traits:

- interface:
  queryParameters:
    if:
      enum: ["oic.if.s", "oic.if.baseline"]
```
/MediaResURI:

description: |
This resource specifies the media types that an OCF Server supports.
The resource is an array of media elements
Each element contains:
  A URL at which the specified media type can be accessed.
  A string array containing the definition of the media using SDP.
  Each entry in the sdp array is an SDP line.
The SDP specification can be found at http://tools.ietf.org/html/rfc4566.

is : ['interface']

get:

description: |
Retrieves the current media resource.

responses:

  200:

    body:
      application/json:
        schema: |
          |
          "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.media.json#",
          "$schema": "http://json-schema.org/draft-04/schema#",
          "description" : "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All
          rights reserved."
          
          "title": "Media",
          "definitions": |
            |
            "oic.r.media": |
              |
              "properties": |
                |
                "url": |
                  |
                  "type": "string",
                  "description": "url for the media instance"
                |
                "sdp": |
                  |
                  "type": "array",
                  "description": "Array of strings, one per SDP line",
                  "items": |
                    |
                    "type": "string",
                    "description": "SDP media or attribute line"
                |
          |
          "type": "object",
          "allOf": [
            |
            "$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},
            |
            "$ref": "#/definitions/oic.r.media"
          ],
          "required": ["media"]
        |
        example: |

{  "rt": ["oic.r.media"],
  "id": "unique_example_id",
  "media": [  
    {  
      "url": "some example url",
      "sdp": [  
        "m=video 1 RTP/AVP 96",
        "a=rtpmap:96 H264/9000",
        "a=fmtp:96 profile-level-id=42A028;packetization-mode=1"
      ]
    },  
    {  
      "url": "some other example url",
      "sdp": [  
        "m=audio 2 RTP/AVP 97",
        "a=rtpmap:97 MP4A-LATM/90000"
      ]
    },  
    {  
      "url": "some other example url",
      "sdp": [  
        "m=video 3 RTP/AVP 98",
        "a=rtpmap:98 jpeg/90000",
        "a=fmtp:98 sampling=YCbCr-4:2:0;width=256;height=256"
      ]
    ]
  ]
}

### 6.41.5 Property Definition

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>media</td>
<td>array: see schema</td>
<td>yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>url (media)</td>
<td>string</td>
<td></td>
<td></td>
<td>url for the media instance</td>
</tr>
<tr>
<td>sdp (media)</td>
<td>array: see schema</td>
<td></td>
<td></td>
<td>Array of strings, one per SDP line</td>
</tr>
</tbody>
</table>

### 6.41.6 CRUDN behaviour

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/MediaResURI</td>
<td></td>
<td>get</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### 6.42 Media Source

#### 6.42.1 Introduction

This resource defines a media source that exists on a device. The source can be an input source or output source, this resource is agnostic of that. The sourceName specifies a pre-defined media input or output (e.g. "HDMI", "DVI") The sourceNumber is a numeric identifier to specify the instance (e.g. "PC", 1) The sourceType is an enumeration defining whether the source is audio, video or both. The status is a boolean that determines if the specific source instance is selected or not. A status of true means that the source instance is selected. A status of false means that the source instance is not selected.

#### 6.42.2 Example URI

/mediaSourceResURI
6.42.3 Resource Type

The resource type (rt) is defined as: oic.r.mediasource.

6.42.4 RAML Definition

```yaml
#%RAML 0.8
title: OIC Media Source
version: v1.1.0-20160519
traits:
  - interface:
    queryParameters:
      if:
        enum: ["oic.if.a", "oic.if.baseline"]

/mediaSourceResURI:
  description: |
    This resource defines a media source that exists on a device.
    The source can be an input source or output source, this resource is agnostic of that.
    The sourceName specifies a pre-defined media input or output (e.g. "HDMI", "DVI")
    The sourceNumber is a numeric identifier to specify the instance (e.g. "PC", 1)
    The sourceType is an enumeration defining whether the source is audio, video or both.
    The status is a boolean that determines if the specific source instance is selected or not.
    A status of true means that the source instance is selected.
    A status of false means that the source instance is not selected.

  is: ['interface']
get:
  responses:
    200:
      body: application/json:
        schema: |
          {
            "$schema": "http://json-schema.org/draft-04/schema#",
            "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All rights reserved.",
            "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.mediasource.json#",
            "title": "Media Source",
            "definitions": {
              "oic.r.mediasource": {
                "properties": {
                  "sourceName": {
                    "type": "string",
                    "description": "Specifies a pre-defined media input or output"
                  },
                  "sourceNumber": {
                    "type": ["integer", "string"],
                    "readOnly": true,
                    "description": "Numeric identifier to specify the instance"
                  },
                  "sourceType": {
                    "type": "string",
                    "enum": ["audioOnly", "videoOnly", "audioPlusVideo"],
                    "readOnly": true,
                    "description": "Specifies the type of the source"
                  },
                  "status": {
                    "type": "boolean",
                    "description": "Specifies if the specific source instance is selected or not"
                  }
                }
              }
            }
          }"
"type": "object",
"allOf": [
{"$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},
{"$ref": "#/definitions/oic.r.mediasource"}
],
"required": ["sourceName","status"]
}

example: |
{
"rt": ["oic.r.mediasource"],
"id": "unique_example_id",
"sourceName": "HDMI-CEC",
"sourceNumber": "1",
"sourceType": "audioPlusVideo",
"status": true
}

post:

description: |
Changes the status of the source.
Allows changes of the sourceName and the status.

body:
application/json:

schema: |

{"$schema": "http://json-schema.org/draft-04/schema#",
"description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All rights reserved.",
"id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.mediaSource.json#",
"title": "Media Source",
"definitions": {
"oic.r.mediasource": {
"properties": {
"sourceName": {
"type": "string",
"description": "Specifies a pre-defined media input or output"
},
"sourceNumber": {
"type": [ "integer", "string" ],
"readOnly": true,
"description": "Numeric identifier to specify the instance"
},
"sourceType": {
"type": "string",
"enum": [ "audioOnly", "videoOnly", "audioPlusVideo" ],
"readOnly": true,
"description": "Specifies the type of the source"
},
"status": {
"type": "boolean",
"description": "Specifies if the specific source instance is selected or not"
}
},
"type": "object",
"allOf": [
{"$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},
{"$ref": "#/definitions/oic.r.mediasource"}
],
"required": ["sourceName","status"]
}

example: |
8422         
8423         "id":           "unique_example_id",
8424         "sourceName":   "my new name",
8425         "sourceNumber": "1",
8426         "status":       true
8427     
8428     
8429     responses:
8430         200:
8431         body:
8432         application/json:
8433         schema: |
8434         |
8435         |
8436         |
8437         |
8438         |
8439         |
8440         |
8441         |
8442         |
8443         |
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8476         |
8477         |
8478         |
8479         |
8480         |
8481         |

6.42.5 Property Definition

Table 89 Media Source Property Definitions

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
</table>

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<table>
<thead>
<tr>
<th>sourceName</th>
<th>string</th>
<th>yes</th>
<th>Specifies a pre-defined media input or output</th>
</tr>
</thead>
<tbody>
<tr>
<td>status</td>
<td>boolean</td>
<td>yes</td>
<td>Specifies if the specific source instance is selected or not</td>
</tr>
<tr>
<td>sourceNumber</td>
<td>[u'integer', u'string']</td>
<td>Read Only</td>
<td>Numeric identifier to specify the instance</td>
</tr>
<tr>
<td>sourceType</td>
<td>string</td>
<td>Read Only</td>
<td>Specifies the type of the source</td>
</tr>
</tbody>
</table>

### 6.42.6 CRUDN behaviour

#### Table 90 Media Source CRUDN operations

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/mediaSourceResURI</td>
<td>get</td>
<td>post</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### 6.43 Media Source List

#### 6.43.1 Introduction

This resource provides the list of media sources available on the device. The sources are an array of mediaSource(s) as separately defined. The basic resource type oic.r.mediaSourceList does not provide any indications whether the source is input or output. Hence, two specializations of this resource exist. When a device exposes input sources then an instance of this resource with a resource type of oic.r.media.input is exposed. When a device exposes output sources then an instance of this resource with a resource type of oic.r.media.output is exposed. A device that exposes both input and output media sources then exposes two instances of this resource, one with a resource type or oic.r.media.input and one with a resource type of oic.r.media.output.

#### 6.43.2 Example URI

/mediaSourceListResURI

#### 6.43.3 Resource Type

The resource type (rt) is defined as: oic.r.mediasourcelist.

#### 6.43.4 RAML Definition

```raml
title: OICMediaSourceList
version: v1.1.0-20160519
traits:
- interface:
  queryParameters:
    if:
      enum: ["oic.if.a", "oic.if.baseline"]
```

/mediaSourceListResURI:

**description:**
This resource provides the list of media sources available on the device.
The sources are an array of mediaSource(s) as separately defined.
The basic resource type oic.r.mediaSourceList does not provide any indications whether the source is input or output. Hence, two specializations of this resource exist.
When a device exposes input sources then an instance of this resource with a resource type of oic.r.media.input is exposed.
When a device exposes output sources then an instance of this resource with a resource type of oic.r.media.output is exposed.
When a device exposes output sources then an instance of this resource with a resource type of oic.r.media.output is exposed.

A device that exposes both input and output media sources then exposes two instances of this resource,

one with a resource type or oic.r.media.input and one with a resource type of oic.r.media.output

is: [{'interface'}]

get:

responses:

200:

  body:
  application/json:

    schema: |

      {
        "$schema": "http://json-schema.org/draft-04/schema#",
        "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All rights reserved.",
        "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.mediaSourceList.json#",
        "title": "Media Source List",
        "definitions": {
          "oic.r.mediasourcelist": {
            "properties": {
              "sources": {
                "type": "array",
                "items": {
                  "oneOf": [
                    { "$ref": "oic.r.mediaSource.json#/definitions/oic.r.mediasource" }
                  ]
                }
              }
            }
          }
        },
        "type": "object",
        "allOf": [
          { "$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},
          { "$ref": "#/definitions/oic.r.mediasourcelist"}
        ],
        "required": ["sources"
      }

example: |

  { "rt": ["oic.r.mediasourcelist"],
    "id": "unique_example_id",
    "sources": [
      {
        "sourceName": "HDMI-CEC",
        "sourceNumber": "1",
        "sourceType": "audioPlusVideo",
        "status": true
      },
      {
        "sourceName": "dualRCA",
        "sourceNumber": "1",
        "sourceType": "audioOnly",
        "status": false
      }
    ]
  }

post:

description: |
Changes the status of the source(s).
Allows changes of the sourceName and the status.

body:
application/json:
schema:

   
   
   "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All rights reserved.",
   "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.mediaSourceList.json#",
   "title": "Media Source List",
   "definitions": {
      "oic.r.mediasourcelist": {
         "properties": {
            "sources": {
               "oneOf": [{
                     "$ref": "oic.r.mediaSource.json#/definitions/oic.r.mediasource" }
               ]
            }
         }
      }
   }
   "type": "object",
   "allOf": [{
      "$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},
      { "$ref": "#/#definitions/oic.r.mediasourcelist"}
   },
   "required": ["sources"]
}

example:

   
   
   "id": "unique_example_id",
   "sources": [
      {
         "sourceName": "my new name",
         "sourceNumber": "1",
         "status": true
      }
   ]

responses:

200:

body:
application/json:
schema:

   
   
   "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All rights reserved.",
   "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.mediaSourceList.json#",
   "title": "Media Source List",
   "definitions": {
      "oic.r.mediasourcelist": {
         "properties": {
            "sources": {
               "oneOf": [
                  { "$ref": "oic.r.mediaSource.json#/definitions/oic.r.mediasource" }
               ]
            }
         }
      }
   }
   "type": "object",
   "allOf": [{
      "$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},
      { "$ref": "#/#definitions/oic.r.mediasourcelist"}
   },
   "required": ["sources"]
6.43.5 Property Definition

Table 91 Media Source List Property Definitions

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>sources</td>
<td>array: see schema</td>
<td>yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>sourceName</td>
<td>string</td>
<td>yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>status</td>
<td>boolean</td>
<td>yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>sourceNumber</td>
<td>[u'integer', u'string']</td>
<td>Read Only</td>
<td></td>
<td>Numeric identifier to specify the instance</td>
</tr>
<tr>
<td>sourceType</td>
<td>string</td>
<td>Read Only</td>
<td></td>
<td>Specifies the type of the source</td>
</tr>
</tbody>
</table>

6.43.6 CRUDN behaviour

Table 92 Media Source List CRUDN operations

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/mediaSourceListResURI</td>
<td>get</td>
<td>post</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

6.43.7 Referenced JSON schemas

6.43.7.1 oic.r.mediaSource.json

```json
{
  "$schema": "http://json-schema.org/draft-04/schema#",
  "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All rights reserved.",
  "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.mediaSource.json#",
}
```
"title": "Media Source",
"definitions": {
  "oic.r.mediasource": {
    "properties": {
      "sourceName": {
        "type": "string",
        "description": "Specifies a pre-defined media input or output"
      },
      "sourceNumber": {
        "type": [ "integer", "string" ],
        "readOnly": true,
        "description": "Numeric identifier to specify the instance"
      },
      "sourceType": {
        "type": "string",
        "enum": [ "audioOnly", "videoOnly", "audioPlusVideo" ],
        "readOnly": true,
        "description": "Specifies the type of the source"
      },
      "status": {
        "type": "boolean",
        "description": "Specifies if the specific source instance is selected or not"
      }
    }
  }
},
"type": "object",
"allOf": [
  {"$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},
  {"$ref": "#/definitions/oic.r.mediasource"}
],
"required": ["sourceName","status"]
}
}

6.44 Media Source Input

6.44.1 Introduction

This resource provides the list of input media sources available on the device. The sources are an array of mediaSource(s) as separately defined.

6.44.2 Example URI

/mediaSourceInputResURI

6.44.3 Resource Type

The resource type (rt) is defined as: oic.r.media.input.

6.44.4 RAML Definition

```raml
#%RAML 0.8

title: OICMediaSourceInput
version: v1.1.0-20160519

traits:
  - interface :
    queryParameters:
      if:
        enum: ["oic.if.a", "oic.if.baseline"]

@mediaSourceInputResURI:

description: |
  This resource provides the list of input media sources available on the device.
  The sources are an array of mediaSource(s) as separately defined.

  is : ['interface']
  get:
```
responses:
  200:
    body:
      application/json:
        schema:
          
          { "$schema": "http://json-schema.org/draft-04/schema#",
           "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All rights reserved.",
           "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.mediaSourceList.json#",
           "title": "Media Source List",
           "definitions": {
             "oic.r.mediasourcelist": {
               "properties": {
                 "sources": {
                   "type": "array",
                   "items": {
                     "oneOf": [
                       { "$ref": "oic.r.mediaSource.json#/definitions/oic.r.mediasource" }
                     ]
                   }
                 }
               }
             }
           },
           "type": "object",
           "allOf": [
             { "$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},
             { "$ref": "#/definitions/oic.r.mediasourcelist"}
           ],
           "required": ["sources"]
        }
        example:
        
        { "rt": ["oic.r.media.input"],
          "id": "unique_example_id",
          "sources": [
            
            { "sourceName": "HDMI-CEC",
              "sourceNumber": "1",
              "sourceType": "audioPlusVideo",
              "status": true
            },
            
            { "sourceName": "dualRCA",
              "sourceNumber": "1",
              "sourceType": "audioOnly",
              "status": false
            }
          ]
        }

post:

  description: |
  Changes the status of the source(s).
  Allows changes of the sourceName and the status.

  body:
  application/json:
    schema:
      
      { "$schema": "http://json-schema.org/draft-04/schema#",
       "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All rights reserved."}
"id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.mediaSourceList.json#",
"title": "Media Source List",
"definitions": {
  "oic.r.mediasourcelist": {
    "properties": {
      "sources": {
        "type": "array",
        "items": {
          "oneOf": [
            {
              "$ref": "oic.r.mediaSource.json#/definitions/oic.r.mediasource"
            }
          ]
        }
      }
    },
    "type": "object",
    "allOf": [
      {
        "$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},
      {
        "$ref": "#/definitions/oic.r.mediasourcelist"
      }
    ],
    "required": ["sources"]
  }
}

example: |
{
  "id": "unique_example_id",
  "sources": {
    "sourceName": "my new name",
    "sourceNumber": "1",
    "status": true
  }
}

responses: {
  200:
  body:
    application/json:
      schema: |
        {
          "$schema": "http://json-schema.org/draft-04/schema#",
          "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All rights reserved."
        }"id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.mediaSourceList.json#",
        "title": "Media Source List",
        "definitions": {
          "oic.r.mediasourcelist": {
            "properties": {
              "sources": {
                "type": "array",
                "items": {
                  "oneOf": [
                    {
                      "$ref": "oic.r.mediaSource.json#/definitions/oic.r.mediasource"
                    }
                  ]
                }
              }
            },
            "type": "object",
            "allOf": [
              {
                "$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"}
              {
                "$ref": "#/definitions/oic.r.mediasourcelist"
              }
            ],
            "required": ["sources"]
        }
    }

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6.45.4 RAML Definition

```yaml
#%RAML 0.8
title: OICMediaSourceOutput
version: v1.1.0-20160519
traits:
  - interface:
    queryParameters:
      if:
        enum: ["oic.if.a", "oic.if.baseline"]

/mediaSourceOutputResURI:

description: |
  This resource provides the list of output media sources available on the device.
  The sources are an array of mediaSource(s) as separately defined.
```
200:

   body:
      application/json:
         schema: |

   "$schema": "http://json-schema.org/draft-04/schema#",
   "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All rights reserved."

   "id":
   "http://openInterconnect.org/iotdatamodels/schemas/oic.r.mediaSourceList.json#",
   "title": "Media Source List",
   "definitions": {
      "oic.r.mediasourcelist": {
         "properties": {
            "sources": {
               "type": "array",
               "items": {
                  "oneOf": [
                     { "$ref": "oic.r.mediaSource.json#/definitions/oic.r.mediasource" }
                  ]
               }
            }
         }
      }
   }

   "type": "object",
   "allOf": [
      { "$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},
      { "$ref": "#/definitions/oic.r.mediasourcelist"}
   ],
   "required": ["sources"]

example: |

   { 
      "rt": ["oic.r.media.output"],
      "id": "unique_example_id",
      "sources": [
         {  
            "sourceName": "HDMI-CEC",
            "sourceNumber": "1",
            "sourceType": "audioPlusVideo",
            "status": true
         },
         {  
            "sourceName": "dualRCA",
            "sourceNumber": "1",
            "sourceType": "audioOnly",
            "status": false
         }
      ]
   }

post:

   description: |
   Changes the status of the source(s).
   Allows changes of the sourceName and the status.

   body:
      application/json:
         schema: |

   "$schema": "http://json-schema.org/draft-04/schema#",
   "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All rights reserved.",
"id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.mediaSourceList.json#",
"title": "Media Source List",
"definitions": {
  "oic.r.mediasourcelist": {
    "properties": {
      "sources": {
        "type": "array",
        "items": {
          "oneOf": [
            { "$ref": "oic.r.mediaSource.json#/definitions/oic.r.mediasource" }
          ]
        }
      }
    }
  }
},
"type": "object",
"allOf": [
  { "$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},
  { "$ref": "#/definitions/oic.r.mediasourcelist"}
],
"required": ["sources"]
}

example: |
{
  "id": "unique_example_id",
  "sources": [
    {
      "sourceName": "my new name",
      "sourceNumber": "1",
      "status": true
    }
  ]
}

responses:
200:
  body:
    application/json:
      schema: |
        {
          "$schema": "http://json-schema.org/draft-04/schema#",
          "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All
directions reserved.",
          "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.mediaSourceList.json#",
          "title": "Media Source List",
          "definitions": {
            "oic.r.mediasourcelist": {
              "properties": {
                "sources": {
                  "type": "array",
                  "items": {
                    "oneOf": [
                      { "$ref": "oic.r.mediaSource.json#/definitions/oic.r.mediasource" }
                    ]
                  }
                }
              }
            }
          },
          "type": "object",
          "allOf": [
            { "$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},
            { "$ref": "#/definitions/oic.r.mediasourcelist"}
          ]
        },
6.45.5 Property Definition

Table 95 Media Source Output Property Definitions

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>sources</td>
<td>array: see schema</td>
<td>yes</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

6.45.6 CRUDN behaviour

Table 96 Media Source Output CRUDN operations

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/mediaSourceOutputResURI</td>
<td></td>
<td>get</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

6.46 Motion Sensor

6.46.1 Introduction

This resource describes whether motion has been sensed or not. The value is a boolean. A value of 'true' means that motion has been sensed. A value of 'false' means that motion not been sensed.

6.46.2 Example URI

/MotionResURI

6.46.3 Resource Type

The resource type (rt) is defined as: oic.r.sensor.motion.

6.46.4 RAML Definition

```xml
#%RAML 0.8
title: OICMotionSensor
version: v1.1.0-20160519

traits:  = interface :  
  queryParameters:  
    if:  
      enum: ["oic.if.s", "oic.if.baseline"]

/MotionResURI:

description: |  
This resource describes whether motion has been sensed or not.  
The value is a boolean.  
A value of 'true' means that motion has been sensed.  
A value of 'false' means that motion not been sensed.

is : ['interface']

get:
```
responses :
  200:
    body:
      application/json:
        schema: |
          "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.sensor.motion.json#",
          "$schema": "http://json-schema.org/draft-04/schema#",
          "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All rights reserved.",
          "title": "Motion Sensor",
          "definitions": {
            "oic.r.sensor.motion": {
              "allOf": [
                "$ref": "oic.r.sensor.json#/definitions/oic.r.sensor"
              ]
            }
          },
          "type": "object",
          "allOf": [
            "$ref": "oic.baseResource.json#/definitions/oic.r.baseresource",
            "$ref": "#/definitions/oic.r.sensor.motion"
          ],
          "required": ["value"]
        }
        example: |
          {"rt": ["oic.r.sensor.motion"],
           "id": "unique_example_id",
           "value": true
        }

6.46.5 Property Definition

Table 97 Motion Sensor Property Definitions

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>value</td>
<td>boolean</td>
<td>yes</td>
<td>Read Only</td>
<td>True = Sensed, False = Not Sensed</td>
</tr>
</tbody>
</table>

6.46.6 CRUDN behaviour

Table 98 Motion Sensor CRUDN operations

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/MotionResURI</td>
<td>get</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

6.47 Night Mode

6.47.1 Introduction

This resource describes a night mode on/off feature. A nightMode value of 'true' means that the feature is on. A nightMode value of 'false' means that the feature is off.

6.47.2 Example URI

/NightModeResURI

6.47.3 Resource Type

The resource type (rt) is defined as: oic.r.nightmode.
# OICNightMode

## Traits
- Interface:
  - Query Parameters:
    - If:
      - Enum: "oic.if.a", "oic.if.baseline"

/NightModeResURI:
  - Description: |
    This resource describes a night mode on/off feature.
    A NightMode value of 'true' means that the feature is on.
    A NightMode value of 'false' means that the feature is off.
  - Is: ['interface']

### GET
  - Responses:
    - 200:
      - Body: application/json:
        - Schema: |
          - "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.nightMode.json#",
          - "$schema": "http://json-schema.org/draft-04/schema#",
          - "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All rights reserved.",
          - "title": "Night Mode",
          - "definitions": |
            - "oic.r.nightmode": |
              - "type": "object",
              - "properties": |
                - "nightMode": |
                  - "type": "boolean",
                  - "description": "Status of the Night Mode"
            - "required": [ "nightMode" ]
        - Example: |
          - "rt": ["oic.r.nightmode"],
          - "id": "unique_example_id",
          - "nightMode": false

### POST
  - Body: application/json:
    - Schema: |
      - "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.nightMode.json#"
null
### 6.47.5 Property Definition

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>nightMode</td>
<td>boolean</td>
<td>yes</td>
<td></td>
<td>Status of the Night Mode</td>
</tr>
</tbody>
</table>

### 6.47.6 CRUDN behaviour

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/NightModeResURI</td>
<td>get</td>
<td>post</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### 6.48 Presence Sensor

#### 6.48.1 Introduction

This resource describes whether presence has been sensed or not. The value is a boolean. A value of 'true' means that presence has been sensed. A value of 'false' means that presence not been sensed.

#### 6.48.2 Example URI

/PresenceResURI

#### 6.48.3 Resource Type

The resource type (rt) is defined as: oic.r.sensor.presence.

#### 6.48.4 RAML Definition

```yaml
#%RAML 0.8
title: OICPresenceSensor
version: v1.1.0-20160519
traits:
  - interface:
    queryParameters:
      if:
        enum: ["oic.if.s", "oic.if.baseline"]
/PresenceResURI:
  description: |
    This resource describes whether presence has been sensed or not.
    The value is a boolean.
    A value of 'true' means that presence has been sensed.
    A value of 'false' means that presence not been sensed.
    is : ['interface']
  get:
    responses:
      200:
        body:
          application/json:
            schema: |
            
            "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.sensor.presence.json#",
            "$schema": "http://json-schema.org/draft-04/schema#",
            "description" : "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All rights reserved.",
            "title": "Presence Sensor",
            "definitions": |
```
"oic.r.sensor.presence": {
  "allOf": [
    {
      "$ref": "oic.r.sensor.json#/definitions/oic.r.sensor"
    }
  ],
  "type": "object",
  "allOf": [
    {
      "$ref": "oic.baseResource.json#/definitions/oic.r.baseresource" ,
    },
    {
      "$ref": "#/definitions/oic.r.sensor.presence"
    }
  ],
  "required": ["value"
  }
}

  example: |
  {
    "rt": ["oic.r.sensor.presence"],
    "id": "unique_example_id",
    "value": true
  }

### 6.48.5 Property Definition

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>value</td>
<td>boolean</td>
<td>yes</td>
<td>Read Only</td>
<td>True = Sensed, False = Not Sensed.</td>
</tr>
</tbody>
</table>

### 6.48.6 CRUDN behaviour

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/PresenceResURI</td>
<td>get</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### 6.49 Pan Tilt Zoom Movement

#### 6.49.1 Introduction

This resource specifies the pan tilt and zoom capabilities of a device. The resource rt is dynamic and reflects whether the values apply to physical movement of the device or digital/virtual enhancements to the image. For physical movement the rt is 'oic.r.movement.ptz'. For digital/virtual image enhancements the rt is 'oic.r.image.ptz'. The Pan and Tilt are specified in degrees. The Zoom Factor is a value in the range 1-100 for linear (optical) zoom. The Zoom Factor is a value in the range [1x, 2x, 4x, 8x, 16x, 32x] for digital zoom. If there is no zoom value to set the Zoom Factor shall be '1x'. The value 0 degrees means neutral, this is the vendor defined setting. Note that this resource also can be used to create an offset for physical movement. When that is the case, the rt value is: oic.r.movement.offset.ptz Note that this resource also can be used to create an offset for image movement. When that is the case, the rt value is: oic.r.image.offset.ptz When the pan_range value is omitted, then the range is [-180.0,180.0]. If pan is not supported then the range shall be [0.0,0.0] When the tilt_range value is omitted, then the range is [-180.0,180.0]. If tilt is not supported then the range shall be [0.0,0.0]
/PanTiltZoomResURI:

description: |
This resource specifies the pan tilt and zoom capabilities of a device.
The resource rt is dynamic and reflects whether the values apply to
physical movement of the device or digital/virtual enhancements to the image.
For physical movement the rt is 'oic.r.movement.ptz'.
For digital/virtual image enhancements the rt is 'oic.r.image.ptz'.
The Pan and Tilt are specified in degrees.
The Zoom Factor is a value in the range 1-100 for linear (optical) zoom.
The Zoom Factor is a value in the range [1x, 2x, 4x, 8x, 16x, 32x] for digital zoom.
If there is no zoom value to set the Zoom Factor shall be '1x'.
The value 0 degrees means neutral, this is the vendor defined setting.
Note that this resource also can be used to create an offset for physical movement.
When that is the case, the rt value is: oic.r.movement.offset.ptz
Note that this resource also can be used to create an offset for image movement.
When that is the case, the rt value is: oic.r.image.offset.ptz
When the pan_range value is omitted, then the range is [-180.0,180.0].
If pan is not supported then the range shall be [0.0,0.0]
When the tilt_range value is omitted, then the range is [-180.0,180.0].
If tilt is not supported then the range shall be [0.0,0.0]

is : ['interface']

get:

   description: |
Retrieves the current pan, tilt and zoom setting.

responses :
200:

   body:
application/json:

   schema: |


   "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.ptz.json#",
   "$schema": "http://json-schema.org/draft-04/schema#",
   "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All
rights reserved.",
   "title": "Pan Tilt Zoom",
   "definitions": {
   "oic.r.ptz": {
   "type": "object",
   "properties": {
   "pan": {
   "type": "number",
   "description": "horizontal pan in degrees"},
   "tilt": {
   "type": "number",
   "description": "vertical tilt in degrees"},
   "pan range": {
   "type": "array",
   "readOnly": true,
   "description": "Min and Max values for the pan setting",
   "minItems": 2,
   "maxItems": 2,
   "items": [}
"type": "number"
}
"tilt_range": {
  "type": "array",
  "readOnly": true,
  "description": "Min and Max values for the tilt setting",
  "minItems": 2,
  "maxItems": 2,
  "items": {
    "type": "number"
  }
},
"zoomFactor": {
  "type": "string",
  "description": "The Zoomfactor value"
},
"zoomFactorRange": {
  "type": "string",
  "enum": ["linear", "1x", "2x", "4x", "8x", "16x", "32x"],
  "readOnly": true,
  "description": "allowed Zoom Factor values. Linear equates to a 1-100
min/max."
}

example: |

  
  
  "rt": ["oic.r.ptz"],
  "id": "unique_example_id",
  "pan": 0.0,
  "tilt": 0.0,
  "zoomFactor": "2x"
}

post:

description: |
  Sets the current pan, tilt and zoom value

body:
  application/json:
    schema: |

    
    |
"description": "vertical tilt in degrees",

"pan_range": {
  "type": "array",
  "readOnly": true,
  "description": "Min and Max values for the pan setting",
  "minItems": 2,
  "maxItems": 2,
  "items": {
    "type": "number"
  }
},

"tilt_range": {
  "type": "array",
  "readOnly": true,
  "description": "Min and Max values for the tilt setting",
  "minItems": 2,
  "maxItems": 2,
  "items": {
    "type": "number"
  }
},

"zoomFactor": {
  "type": "string",
  "description": "The Zoomfactor value"
},

"zoomFactorRange": {
  "type": "string",
  "enum": ["linear", "1x", "2x", "4x", "8x", "16x", "32x"],
  "readOnly": true,
  "description": "allowed Zoom Factor values. Linear equates to a 1-100 min/max."
}

"type": "object",
"allOf": [
  {"$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},
  {"$ref": "#/definitions/oic.r.ptz"}
],

"required": ["pan", "tilt", "zoomFactor"]

example: |
{
  "id": "unique_example_id",
  "pan": 10.0,
  "tilt": -10.0,
  "zoomFactor": "4x"
}

responses :
  200:
    body:
      application/json:
        schema: |
          {"id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.ptz.json#",
           "$schema": "http://json-schema.org/draft-04/schema#",
           "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All
                           rights reserved.",
           "title": "Pan Tilt Zoom",
           "definitions": {
             "oic.r.ptz": {
               "type": "object",
               "properties": {
                 "pan": {
                   "description": "vertical tilt in degrees"
                 }
               }
            }
          }
"type": "number",
"description": "horizontal pan in degrees"
},
"tilt": {
"type": "number",
"description": "vertical tilt in degrees"
},
"pan_range": {
"type": "array",
"readOnly": true,
"description": "Min and Max values for the pan setting",
"minItems": 2,
"maxItems": 2,
"items": {
"type": "number"
}
},
"tilt_range": {
"type": "array",
"readOnly": true,
"description": "Min and Max values for the tilt setting",
"minItems": 2,
"maxItems": 2,
"items": {
"type": "number"
}
},
"zoomFactor": {
"type": "string",
"description": "The Zoomfactor value"
},
"zoomFactorRange": {
"type": "string",
"enum": ["linear", "1x", "2x", "4x", "8x", "16x", "32x"],
"readOnly": true,
"description": "allowed Zoom Factor values. Linear equates to a 1-100 min/max."}

example: |
| "id": "unique_example_id",
| "pan": 10.0,
| "tilt": -10.0,
| "zoomFactor": "4x"

### 6.49.5 Property Definition

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>tilt_range</td>
<td>array: see</td>
<td></td>
<td>Read Only</td>
<td>Min and Max values for the pan setting</td>
</tr>
<tr>
<td>zoomFactor</td>
<td>string</td>
<td>yes</td>
<td></td>
<td>The Zoomfactor value</td>
</tr>
<tr>
<td></td>
<td>data type</td>
<td>mandatory</td>
<td>description</td>
<td></td>
</tr>
<tr>
<td>------------------</td>
<td>-----------</td>
<td>-----------</td>
<td>-----------------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>tilt</td>
<td>number</td>
<td>yes</td>
<td>vertical tilt in degrees</td>
<td></td>
</tr>
<tr>
<td>pan_range</td>
<td>array</td>
<td>see</td>
<td>Read Only Min and Max values for the pan setting</td>
<td></td>
</tr>
<tr>
<td>zoomFactorRange</td>
<td>string</td>
<td></td>
<td>Read Only allowed Zoom Factor values. Linear equates to a 1-100 min/max.</td>
<td></td>
</tr>
<tr>
<td>pan</td>
<td>number</td>
<td>yes</td>
<td>horizontal pan in degrees</td>
<td></td>
</tr>
</tbody>
</table>

6.49.6 CRUDN behaviour

Table 104 Pan Tilt Zoom Movement CRUDN operations

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/PanTiltZoomResURI</td>
<td>get</td>
<td>post</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

6.50 Signal Strength

6.50.1 Introduction

This resource describes the strength of a signal by means of lqi and rssi. The lqi is a floating point number that represents Link Quality Indicator. The rssi is a floating point number that represents the received signal strength indicator.

6.50.2 Example URI

/SignalStrengthResURI

6.50.3 Resource Type

The resource type (rt) is defined as: oic.r.signalstrength.

6.50.4 RAML Definition

```json
#%RAML 0.8

title: OICSignalStrength
version: v1.1.0-20160519

traits:
- interface:
  queryParams:
    if:
      enum: ["oic.if.s", "oic.if.baseline"]

/SignalStrengthResURI:

description: |
  This resource describes the strength of a signal by means of lqi and rssi.
  The lqi is a floating point number that represents Link Quality Indicator.
  The rssi is a floating point number that represents the received signal strength indicator.

is: ['interface']

get:
  responses:
  200:
    body:
      application/json:
        schema: |
        |
        "id":
```

Copyright Open Connectivity Foundation, Inc. © 2016-18. All rights Reserved
"http://openinterconnect.org/iotdatamodels/schemas/oic.r.signalStrength.json#",
"$schema": "http://json-schema.org/draft-04/schema#",
"description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All rights reserved.",
"title": "Signal Strength",
"definitions": {
  "oic.r.signalstrength": {
    "type": "object",
    "properties": {
      "lqi": {
        "type": "number",
        "readOnly": true,
        "description": "current value of Link Quality Indicator"
      },
      "rssi": {
        "type": "number",
        "readOnly": true,
        "description": "current value of Received Signal Strength Indicator"
      }
    }
  }
},
"type": "object",
"allOf": [
  {"$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},
  {"$ref": "#/definitions/oic.r.signalstrength"}
],
"required": ["lqi","rssi"]
}

example:
{
  "rt": ["oic.r.signalstrength"],
  "id": "unique_example_id",
  "lqi": 10.0,
  "rssi": 55.0
}

6.50.5 Property Definition

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>rssi</td>
<td>number</td>
<td>yes</td>
<td>Read Only</td>
<td>current value of Received Signal Strength Indicator</td>
</tr>
<tr>
<td>lqi</td>
<td>number</td>
<td>yes</td>
<td>Read Only</td>
<td>current value of Link Quality Indicator</td>
</tr>
</tbody>
</table>

6.50.6 CRUDN behaviour

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/SignalStrengthResURI</td>
<td>get</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

6.51 Speech Synthesis-TTS

6.51.1 Introduction

This resource may be created on the OIC Server that is capable of rendering speech by an OIC Client and allows the client to provide an SSML document with text to render or may be created on the OIC Server by some resident application. The audio rendered is at this stage local to the Server (i.e. not streamed). The utterance is an SSML document. The supportedLanguages is an
array of the RFC 5646 defined language tags that are supported. The supportedVoices is an SSML
document fragment indicating the voices that are supported.

### 6.5.2 Example URI

/SpeechTTSResURI

### 6.5.3 Resource Type

The resource type (rt) is defined as: oic.r.speech.tts.

### 6.5.4 RAML Definition

```rml
#%RAML 0.8

title: OICSpeechTTS

version: v1.1.0-20160519

traits:

- interface :

  queryParameters:

    if:

      enum: ["oic.if.a", "oic.if.baseline"]

/SpeechTTSResURI:

description: |

  This resource may be created on the OIC Server that is capable of rendering speech by an OIC
  Client
  and allows the client to provide an SSML document with text to render
  or may be created on the OIC Server by some resident application.
  The audio rendered is at this stage local to the Server (i.e not streamed).
  The utterance is an SSML document.
  The supportedLanguages is an array of the RFC 5646 defined language tags that are supported.
  The supportedVoices is an SSML document fragment indicating the voices that are supported.

  is : ['interface']

get:

description: |

  Utterance in the example shall be a properly escaped (JSON rules) SSML document
  An example is given below:

  "<?xml version="1.0" encoding="ISO-8859-1"?>
<speak version="1.1" xmlns="http://www.w3.org/2001/10/synthesis"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xsi:schemaLocation="http://www.w3.org/2001/10/synthesis
  http://www.w3.org/2001/XMLSchema-instance">
<TITLE>The title of the movie is:

\"Monty Pythons The Meaning of Life\"

\which is directed by Terry Jones.

</speak>

responses :

200:

  body:

    application/json:

      schema: |

    

  

```
```
"type": "object",
"properties": {
  "utterance": {
    "type": "string",
    "description": "SSML document including the speech body"
  },
  "supportedLanguages": {
    "type": "array",
    "readOnly": true,
    "description": "array of supported language tags",
    "items": {
      "type": "string"
    }
  },
  "supportedVoices": {
    "type": "string",
    "readOnly": true,
    "description": "SSML document fragment indicating supported voices"
  }
}
}
"type": "object",
"allOf": [
  {"$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},
  {"$ref": "#/definitions/oic.r.speech.tts"}
],
"required": ["utterance"]
}
}
  example: |
  |
  | { "rt": ["oic.r.speech.tts"],
  |
  | "id": "unique_example_id",
  |
  | "utterance": "SSML Document",
  |
  | "supportedLanguages": ["en-US", "en-GB", "fr-CA"],
  |
  | "supportedVoices": "<voice gender="female" variant="2">\n   \n\r<voice name="Mike">\n   \n\r<voice

post: |
  |
  | description: |
  |
  | Changes the utterance being rendered.
  |
  | Example shows a change in language selected.

  body: |
  |
  | application/json:

  schema: |
  |
  | { "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.speech.tts.json#",
  |
  | "$schema": "http://json-schema.org/draft-04/schema#",
  |
  | "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All rights reserved.",
  |
  | "title": "Speech Synthesis-TTS",
  |
  | "definitions": {
  |
  | "oic.r.speech.tts": { 
  |
  | "type": "object",
  |
  | "properties": {
  |
  | "utterance": {
  |
  | "type": "string",
  |
  | "description": "SSML document including the speech body"
  |
  | },
  |
  | "supportedLanguages": {
  |
  | "type": "array",
  |
  | "readOnly": true,
  |
  | "description": "array of supported language tags",
  |
  | "items": {

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"type": "string"
}

"supportedVoices": {
 "type": "string",
 "readOnly": true,
 "description": "SSML document fragment indicating supported voices"
}
"type": "object",
"allOf": [
 {"$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},
 {"$ref": "#/definitions/oic.r.speech.tts"}
],
"required": ["utterance"]
}

example: |
{
 "rt": ["oic.r.speech.tts"],
 "id": "unique_example_id",
 "utterance": "SSML Document"
}

responses:
200:

 body: application/json:

 schema: |
 {
 "id": "http://openiconnect.org/iotdatamodels/schemas/oic.r.speech.tts.json#",
 "$schema": "http://json-schema.org/draft-04/schema#",
 "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All
rights reserved.",
 "title": "Speech Synthesis-TTS",
 "definitions": {
 "oic.r.speech.tts": {
 "type": "object",
 "properties": {
 "utterance": {
 "type": "string",
 "description": "SSML document including the speech body"
 },
 "supportedLanguages": {
 "type": "array",
 "readOnly": true,
 "description": "array of supported language tags",
 "items": {
 "type": "string"
 }
 },
 "supportedVoices": {
 "type": "string",
 "readOnly": true,
 "description": "SSML document fragment indicating supported voices"
 }
 }
 },
 "allOf": [
 {"$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},
 {"$ref": "#/definitions/oic.r.speech.tts"}
],
 "required": ["utterance"]}
6.51.5 Property Definition

Table 107 Speech Synthesis-TTS Property Definitions

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>supportedVoices</td>
<td>string</td>
<td></td>
<td>Read Only</td>
<td>SSML document fragment indicating supported voices</td>
</tr>
<tr>
<td>utterance</td>
<td>string</td>
<td>yes</td>
<td></td>
<td>SSML document including the speech body</td>
</tr>
<tr>
<td>supportedLanguages</td>
<td>array: see schema</td>
<td></td>
<td>Read Only</td>
<td>array of supported language tags</td>
</tr>
</tbody>
</table>

6.51.6 CRUDN behaviour

Table 108 Speech Synthesis-TTS CRUDN operations

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/SpeechTTSResURI</td>
<td>get</td>
<td>post</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

6.52 Touch Sensor

6.52.1 Introduction

This resource describes whether touch has been sensed or not. The value is a boolean. A value of 'true' means that touch has been sensed. A value of 'false' means that touch not been sensed.

6.52.2 Example URI

/TouchResURI

6.52.3 Resource Type

The resource type (rt) is defined as: oic.r.sensor.touch.

6.52.4 RAML Definition

```raml
#%RAML 0.8

title: OICTouchSensor

version: v1.1.0-20160519

traits:
  - interface:
    queryParameters:
      if:
        enum: ["oic.if.s", "oic.if.baseline"]

/TouchResURI:
  description: |

    This resource describes whether touch has been sensed or not.

    The value is a boolean.
```
A value of 'true' means that touch has been sensed.
A value of 'false' means that touch not been sensed.

is : ['interface']

get:
responses :
200:
  body:
  application/json:
    schema: |
    
    "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.sensor.touch.json#",
    "$schema": "http://json-schema.org/draft-04/schema#",
    "description" : "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All rights reserved.",
    "title": "Touch Sensor",
    "definitions": {
      "oic.r.sensor.touch": {
        "allOf": [
          "$ref": "oic.r.sensor.json#/definitions/oic.r.sensor"
        ]
      }
    },
    "type": "object",
    "allOf": [
      "$ref": "oic.baseResource.json#/definitions/oic.r.baseresource",
      "$ref": "#/definitions/oic.r.sensor.touch"
    ],
    "required": ["value"]
    
    example: |
    
    {"rt": ["oic.r.sensor.touch"],
    "id": "unique_example_id",
    "value": true
    }

6.52.5 Property Definition

Table 109 Touch Sensor Property Definitions

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>value</td>
<td>boolean</td>
<td>yes</td>
<td>Read Only</td>
<td>True = Sensed, False = Not Sensed.</td>
</tr>
</tbody>
</table>

6.52.6 CRUDN behaviour

Table 110 Touch Sensor CRUDN operations

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/TouchResURI</td>
<td></td>
<td>get</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

6.53 UV Radiation

6.53.1 Introduction

This resource specifies UV radiation measurement. The measurement is the current measured UV Index

6.53.2 Example URI

/UVRadiationResURI
6.53.3  Resource Type

The resource type (rt) is defined as: oic.r.sensor.radiation.uv.

6.53.4  RAML Definition

```raml
#%RAML 0.8

title: OICUVRadiation
version: v1.1.0-20160519
traits:
  - interface:
    queryParameters:
      if:
        enum: ["oic.if.s", "oic.if.baseline"]
/UVRadiationResURI:
  description: |
    This resource specifies UV radiation measurement.
    The measurement is the current measured UV Index
  is : ['interface']
  get:
    description: |
    Retrieves the current UV Radiation value
    responses:
    200:
      body:
        application/json:
          schema: |
            
            "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.sensor.radiation.uv.json#",
            "$schema": "http://json-schema.org/draft-04/schema#",
            "description" : "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All
            rights reserved.
            "title": "UV Radiation",
            "definitions": { 
              "oic.r.sensor.radiation.uv": { 
                "type": "object",
                "properties": { 
                  "measurement": { 
                    "type": "number",
                    "readOnly": true,
                    "description": "The measured UV Index"
                  }
                }
              }
            }
            example: |
            
            "rt": ["oic.r.sensor.radiation.uv"],
            "id": "unique_example_id",
            "measurement": 3.5
```
6.53.5 Property Definition

Table 111 UV Radiation Property Definitions

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>measurement</td>
<td>number</td>
<td>yes</td>
<td>Read Only</td>
<td>The measured UV Index</td>
</tr>
</tbody>
</table>

6.53.6 CRUDN behaviour

Table 112 UV Radiation CRUDN operations

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/UVRadiationResURI</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

6.54 Water Sensor

6.54.1 Introduction

This resource describes whether water has been sensed or not. The value is a boolean. A value of 'true' means that water has been sensed. A value of 'false' means that water not been sensed.

6.54.2 Example URI

/WaterResURI

6.54.3 Resource Type

The resource type (rt) is defined as: oic.r.sensor.water.

6.54.4 RAML Definition

```raml
#%RAML 0.8
title: OICWaterSensor
version: v1.1.0-20160519
traits:
  - interface:
    queryParameters:
      if:
        enum: ["oic.if.s", "oic.if.baseline"]

/WaterResURI:
  description: |
    This resource describes whether water has been sensed or not.
    The value is a boolean.
    A value of 'true' means that water has been sensed.
    A value of 'false' means that water not been sensed.
  is: ['interface']
  get:
    responses:
      200:
        body:
          application/json:
            schema: |
            |
```


"oic.r.sensor.water": {
    "allOf": [
        {
            "$ref": "oic.r.sensor.json#/definitions/oic.r.sensor"
        }
    ],
    "type": "object",
    "allOf": [
        {
            "$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},
        {
            "$ref": "#/definitions/oic.r.sensor.water"},
        
    ],
    "required": ["value"]
}

example: |
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|
This resource provides a measure of proper acceleration (g force) as opposed to co-ordinate acceleration (which is dependent on the co-ordinate system and the observer).

The value is a float which describes the acceleration experienced by the object in "g".

is : ['interface']

get:
responses:
  200:
    body:
      application/json:
        schema: |
        
        "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.sensor.acceleration.json#",
        "$schema": "http://json-schema.org/draft-04/schema#",
        "description" : "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All rights reserved.",
        "title": "Acceleration Sensor",
        "definitions": {
            "oic.r.sensor.acceleration": {
                "properties": {
                    "acceleration": {
                        "type": "number",
                        "readOnly": true,
                        "description": "sensed acceleration experienced in 'g'."
                    }
                }
            }
        },
        "type": "object",
        "allOf": [
        "$ref": "oic.baseResource.json#/definitions/oic.r.baseresource",
        "$ref": '#/definitions/oic.r.sensor.acceleration"
        ],
        "required": ["acceleration"
        ]
    }
  }
}

"rt": ["oic.r.sensor.acceleration"],
"id": "unique_example_id",
"acceleration": 0.5
}

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>acceleration</td>
<td>number</td>
<td>yes</td>
<td>Read Only</td>
<td>sensed acceleration experienced in 'g'.</td>
</tr>
</tbody>
</table>

**6.55.6 CRUDN behaviour**

Table 116 Acceleration Sensor CRUDN operations

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/AccelerationResURI</td>
<td>get</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
6.56 Movement

6.56.1 Introduction

This resource specifies linear movement. The movementSettings is an array of strings containing possible movement values (e.g. spin, stop, left, right). The movement is the currently selected movement value. The movementModifier is a modifier to the movement value (e.g. "spin", "90")

6.56.2 Example URI

/MovementResURI

6.56.3 Resource Type

The resource type (rt) is defined as: oic.r.movement.linear.

6.56.4 RAML Definition

```
#%RAML 0.8

title: OICAcceleration

version: v1.1.0-20160519

traits:
  - interface:
    queryParameters:
      if:
        enum: ["oic.if.s", "oic.if.baseline"]

/MovementResURI:

description: |
This resource specifies linear movement.
The movementSettings is an array of strings containing possible movement values (e.g spin, stop, left, right).
The movement is the currently selected movement value.
The movementModifier is a modifier to the movement value (e.g "spin", "90")

is: ["interface"]

get:
  responses:
    200:
      body:
        application/json:
          schema: |
            {
              "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.movement.linear.json#",
              "$schema": "http://json-schema.org/draft-04/schema#",
              "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All rights reserved.",
              "title": "Linear Movement",
              "definitions": {
                "oic.r.movement.linear": {
                  "type": "object",
                  "properties": {
                    "movementSettings": {
                      "type": "array",
                      "readOnly": true,
                      "description": "array of possible movement values",
                      "items": {
                        "type": "string"
                      }
                    },
                    "movement": {
                      "type": "string",
                      "description": "Current movement value"
                    }
                  }
                }
              }
            }
```

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"movementModifier": {
  "type": "string",
  "description": "Modifier to the movement value (e.g. spin-90, left-20), units are device dependent"
}

example:
{
  "rt": ["oic.r.movement.linear"],
  "id": "unique_example_id",
  "movementSettings": ["stop", "left", "right", "rotate", "forward", "backward"],
  "movement": "rotate",
  "movementModifier": "90"
}

post:

description: |
Sets the current device movement

body:
application/json:
schema: |
{
  "id": "http://openinterconnect.org/lodatamodels/schemas/oic.r.movement.linear.json#",
  "$schema": "http://json-schema.org/draft-04/schema#",
  "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All rights
reserved.",
  "title": "Linear Movement",
  "definitions": {
    "oic.r.movement.linear": {
      "type": "object",
      "properties": {
        "movementSettings": {
          "type": "array",
          "readOnly": true,
          "description": "array of possible movement values",
          "items": {
            "type": "string"
          }
        },
        "movement": {
          "type": "string",
          "description": "Current movement value"
        },
        "movementModifier": {
          "type": "string",
          "description": "Modifier to the movement value (e.g. spin-90, left-20), units
are device dependent"
        }
      }
    },
    "object": {
      "$ref": "oic.baseResource.json#/definitions/oic.r.baseresource",
      "$ref": "#definitions/oic.r.movement.linear"
    }
  }
}
example: |

```json
{
  "id": "unique_example_id",
  "movementSettings": ["stop", "left", "right", "rotate", "forward", "backward"],
  "movement": "stop"
}
```

responses:

```
200:

body: application/json:

  schema: |

  {
    "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.movement.linear.json#",
    "$schema": "http://json-schema.org/draft-04/schema#",
    "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All rights reserved.",
    "title": "Linear Movement",
    "definitions": {
      "oic.r.movement.linear": {
        "type": "object",
        "properties": {
          "movementSettings": {
            "type": "array",
            "readOnly": true,
            "description": "array of possible movement values",
            "items": {
              "type": "string"}
          },
          "movement": {
            "type": "string",
            "description": "Current movement value"
          },
          "movementModifier": {
            "type": "string",
            "description": "Modifier to the movement value (e.g. spin-90, left-20), units are device dependent"
          }
        }
      },
      "movement": {
        "type": "string",
        "description": "Current movement value"
      },
      "movementModifier": {
        "type": "string",
        "description": "Modifier to the movement value (e.g. spin-90, left-20), units are device dependent"
      }
    },
    "type": "object",
    "allOf": [
      {"$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},
      {"$ref": "#/definitions/oic.r.movement.linear"}
    ],
    "required": ["movementSettings", "movement"]
  }

example: |

```
6.56.5 Property Definition

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>movementSettings</td>
<td>array: see schema</td>
<td>yes</td>
<td>Read Only</td>
<td>array of possible movement values</td>
</tr>
<tr>
<td>movementModifier</td>
<td>string</td>
<td></td>
<td></td>
<td>Modifier to the movement value (e.g. spin-90, left-20), units are device dependent</td>
</tr>
<tr>
<td>movement</td>
<td>string</td>
<td>yes</td>
<td></td>
<td>Current movement value</td>
</tr>
</tbody>
</table>

6.56.6 CRUDN behaviour

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/MovementResURI</td>
<td>get</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>/MovementResURI</td>
<td>post</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

6.57 Sleep Sensor

6.57.1 Introduction

This resource describes whether human sleep has been sensed or not. The value is a boolean. A value of 'true' means that sleep has been sensed. A value of 'false' means that sleep not been sensed.

6.57.2 Example URI

/SleepSensorResURI

6.57.3 Resource Type

The resource type (rt) is defined as: oic.r.sensor.sleep.

6.57.4 RAML Definition

```yaml
#%RAML 0.8
title: OICSleepSensor
version: v1.1.0-20160519
traits:
- interface:
  queryParameters:
    if:
      enum: ["oic.if.s", "oic.if.baseline"]

/SleepSensorResURI:
  description: |
    This resource describes whether human sleep has been sensed or not.
    The value is a boolean.
    A value of 'true' means that sleep has been sensed.
    A value of 'false' means that sleep not been sensed.
    is: ['interface']
  get:
    responses :
      200:
```
body:

```
application/json:

  schema:

    {
      "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.sensor.sleep.json#",
      "$schema": "http://json-schema.org/draft-04/schema#",
      "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All rights reserved.",
      "title": "Sleep Sensor",
      "definitions": {
        "oic.r.sensor.sleep": {
          "allOf": [
            "$ref": "oic.r.sensor.json#/definitions/oic.r.sensor"
          ]
        }
      },
      "type": "object",
      "allOf": [
        "$ref": "oic.baseResource.json#/definitions/oic.r.baseresource",
        "$ref": "#/definitions/oic.r.sensor.sleep"
      ],
      "required": ["value"]
    }

example:

  {
    "rt": ["oic.r.sensor.sleep"],
    "id": "unique_example_id",
    "value": true
  }
```

### 6.57.5 Property Definition

Table 119 Sleep Sensor Property Definitions

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>value</td>
<td>boolean</td>
<td>yes</td>
<td>Read Only</td>
<td>True = Sensed, False = Not Sensed.</td>
</tr>
</tbody>
</table>

### 6.57.6 CRUDN behaviour

Table 120 Sleep Sensor CRUDN operations

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/SleepSensorResURI</td>
<td>get</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### 6.58 Smoke Sensor

#### 6.58.1 Introduction

This resource describes whether smoke has been sensed or not. The value is a boolean. A value of 'true' means that smoke has been sensed. A value of 'false' means that smoke not been sensed.

#### 6.58.2 Example URI

/SmokeSensorResURI

#### 6.58.3 Resource Type

The resource type (rt) is defined as: oic.r.sensor.smoke.

#### 6.58.4 RAML Definition

```RAML
#%RAML 0.8

title: OICSmokeSensor
version: v1.1.0-20160519
```
traits:
  - interface:
    queryParameters:
      if:
        enum: ["oic.if.s", "oic.if.baseline"]

/SmokeSensorResURI:

description: |
  This resource describes whether smoke has been sensed or not.
  The value is a boolean.
  A value of 'true' means that smoke has been sensed.
  A value of 'false' means that smoke not been sensed.

is: ['interface']

get:
  responses:
    200:
      body:
        application/json:
          schema: |
            
  
{ "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.sensor.smoke.json#", 
  "$schema": "http://json-schema.org/draft-04/schema#", 
  "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All rights reserved.",
  "title": "Smoke Sensor",
  "definitions": {
    "oic.r.sensor.smoke": {
      "allOf": [
        "$ref": "oic.r.sensor.json#/definitions/oic.r.sensor"
      ]
    }
  }
}

"type": "object",
"allOf": [
  "$ref": "oic.baseResource.json#/definitions/oic.r.baseresource",
  "$ref": "#/definitions/oic.r.sensor.smoke"
],
"required": ["value"]

example: |

{ "rt": ["oic.r.sensor.smoke"],
  "id": "unique_example_id",
  "value": true
}

6.58.5 Property Definition

Table 121 Smoke Sensor Property Definitions

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>value</td>
<td>boolean</td>
<td>yes</td>
<td>Read Only</td>
<td>True = Sensed, False = Not Sensed.</td>
</tr>
</tbody>
</table>

6.58.6 CRUDN behaviour

Table 122 Smoke Sensor CRUDN operations

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
</table>
6.59 Three Axis Sensor

6.59.1 Introduction
This resource provides a representation of the measurement from a three-axis sensor. The orientation is an array of numbers representing x-plane, y-plane and z-plane values. The unit of measurement for each pane is 'g'.

6.59.2 Example URI
/ThreeAxisResURI

6.59.3 Resource Type
The resource type (rt) is defined as: oic.r.sensor.threeaxis.

6.59.4 RAML Definition
```yaml
#%RAML 0.8
title: OICThreeAxis
version: v1.1.0-20160519
traits:
  - interface:
    queryParameters:
      if:
        enum: ["oic.if.s", "oic.if.baseline"]

/ThreeAxisResURI:
  description: |
    This resource provides a representation of the measurement from a three-axis sensor.
    The orientation is an array of numbers representing x-plane, y-plane and z-plane values.
    The unit of measurement for each pane is 'g'.

  is: ['interface']
  get:
    responses:
      200:
        body:
          application/json:
            schema: |
              "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.sensor.threeaxis.json#",
              "$schema": "http://json-schema.org/draft-04/schema#",
              "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All rights reserved."
            
        "title": "Three Axis Sensor",
        "definitions": { 
        "oic.r.sensor.threeaxis": { 
          "properties": { 
            "orientation": { 
              "type": "array",
              "readOnly": true,
              "description": "Array containing x-plane, y-plane and z-plane orientation in 'g'.",
              "minItems": 3,
              "maxItems": 3,
              "items": { 
                "type": "number"
              }
            }
          }
        }
```
6.59.5 Property Definition

Table 123 Three Axis Sensor Property Definitions

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>orientation</td>
<td>array: see schema</td>
<td>yes</td>
<td>Read Only</td>
<td>Array containing x-plane, y-plane and z-plane orientation in 'g'.</td>
</tr>
</tbody>
</table>

6.59.6 CRUDN behaviour

Table 124 Three Axis Sensor CRUDN operations

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/ThreeAxisResURI</td>
<td>get</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

6.60 Altimeter

6.60.1 Introduction

This resource describes the properties associated with altimeter. Altimeter is a height of the position (metres).

6.60.2 Example URI

/AltimeterResURI

6.60.3 Resource Type

The resource type (rt) is defined as: oic.r.altimeter.

6.60.4 RAML Definition

```yaml
#%RAML 0.8

title: OICAltimeter
version: v1.1.0-20160519
traits:
  - interface:
    queryParameters:
      if:
        enum: ["oic.if.s", "oic.if.baseline"]

/AltimeterResURI:
  description: |
  This resource describes the properties associated with altimeter.
  Altimeter is a height of the position (metres).
  is: ['interface']
```
get:

description: | Retrieves the current the height of the position (metres).

responses:

200:

body:

application/json:

schema:

   "id": "http://openinterconnect.org/schemas/oic.r.altimeter#",
   "$schema": "http://json-schema.org/draft-04/schema#",
   "description": "Copyright (c) 2016, 2017 Open Interconnect Consortium, Inc. All
   rights reserved.",
   "title": "Altimeter",
   "definitions": {
      "oic.r.altimeter": {
         "type": "object",
         "properties": {
            "alt": {
               "type": "number",
               "minimum": 0,
               "readOnly": true,
               "description": "The current height of the position (metres)"
            }
         }
      },
   }
   
   "type": "object",
   "allOf": [
      {"$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},
      {"$ref": "#/definitions/oic.r.altimeter"}
   ],
   "required": ["alt"]
}

example: |

   {"rt": ["oic.r.altimeter"],
    "id": "unique_example_id",
    "alt": 1500.0
   }

6.60.5 Property Definition

Table 125 Altimeter Property Definitions

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>alt</td>
<td>number</td>
<td>yes</td>
<td>Read Only</td>
<td>The current height of the position (metres)</td>
</tr>
</tbody>
</table>

6.60.6 CRUDN behaviour

Table 126 Altimeter CRUDN operations

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/AltimeterResURI</td>
<td>get</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
6.61 Clock

6.61.1 Introduction

This resource describes the properties associated with clock and time. Clock is a time information. Datetime is using ISO 8601 datetime format (e.g: "2007-04-05T14:30Z") (Time+Date+Timezone). Countdown is the desired total seconds for countdown.

6.61.2 Example URI

/ClockResURI

6.61.3 Resource Type

The resource type (rt) is defined as: oic.r.clock.

6.61.4 RAML Definition

```yaml
#%RAML 0.8

title: OICClock
version: v1.1.0-20160519

traits:
  - interface:
      queryParameters:
        if:
          enum: ["oic.if.a", "oic.if.baseline"]

/ClockResURI:
  description: |
    This resource describes the properties associated with clock and time.
    Clock is a time information.
    Datetime is using ISO 8601 datetime format (e.g: "2007-04-05T14:30Z") (Time+Date+Timezone)
    Countdown is the desired total seconds for countdown.

  is: ['interface']

get:
  description: |
    Retrieves the current datetime data.

  responses:
    200:
      body:
        application/json:
          schema:
            |
            
            "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.clock.json#",
            "$schema": "http://json-schema.org/draft-04/schema#",
            "description": "(c) 2016, 2017 Open Connectivity Foundation, Inc. All rights
            reserved.",
            "title": "Clock",
            "definitions": {
              "oic.r.clock": {
                "type": "object",
                "properties": {
                  "datetime": {
                    "type": "string",
                    "description": "Using ISO 8601 datetime format (e.g: 2007-04-05T14:30Z, 2007-04-05T14:30+09:00)"
                  },
                  "countdown": {
                    "type": "number",
                    "minimum": 0,
                    "description": "Desired total seconds for countdown"```
"type": "object",
"allOf": [
{
"$ref": "oic.baseResource.json#/definitions/oic.r.baseresource",
"$ref": "#/definitions/oic.r.clock"
},
"required": ["datetime"]
]

example: |

{
"rt": ["oic.r.clock"],
"id": "unique_example_id",
"datetime": "2015-11-05T14:30Z",
"countdown": 0.0
}

post:

description: |
Sets the desired datetime.

body:
application/json:

schema: |

{
"id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.clock.json#",
"schema": "http://json-schema.org/draft-04/schema#",
"description": "© 2016, 2017 Open Connectivity Foundation, Inc. All rights reserved.",
"title": "Clock",
"definitions": {
"oic.r.clock": {
"type": "object",
"properties": {
"datetime": {
"type": "string",
"description": "Using ISO 8601 datetime format (e.g: 2007-04-05T14:30Z, 2007-04-05T14:30+09:00)"
},
"countdown": {
"type": "number",
"minimum": 0,
"description": "Desired total seconds for countdown"
}
}
}
"allOf": [
{
"$ref": "oic.baseResource.json#/definitions/oic.r.baseresource",
"$ref": "#/definitions/oic.r.clock"
},
"required": ["datetime"]
]

example: |

{
"id": "unique_example_id",
"datetime": "2015-11-05T14:30Z",
"countdown": 0.0
}

responses :
200:

description: |
Indicates that the datetime value was successfully changed.
The new datetime value is provided in the response.

body:
application/json:
schema: |

{ "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.clock.json#", "$schema": "http://json-schema.org/draft-04/schema#", "description": "(c) 2016, 2017 Open Connectivity Foundation, Inc. All rights reserved.", "title": "Clock", "definitions": |
  "oic.r.clock": |
  "type": "object", "properties": |
  "datetime": |
  "type": "string", "description": "Using ISO 8601 datetime format (e.g: 2007-04-05T14:30Z, 2007-04-05T14:30+09:00)"
}, "countdown": |
  "type": "number", "minimum": 0, "description": "Desired total seconds for countdown"

example: |

{ "id": "unique_example_id", "datetime": "2015-11-05T14:30Z", "countdown": 0.0

403:

description: |
Indicates that OIC client sent an invalid property value to the server.
The server responds with the required input representation.

body:
application/json:
schema: |

{ "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.clock.json#", "$schema": "http://json-schema.org/draft-04/schema#", "description": "(c) 2016, 2017 Open Connectivity Foundation, Inc. All rights reserved.", "title": "Clock", "definitions": |
  "oic.r.clock": |
  "type": "object", "properties": |
  "datetime": |
6.61.5 Property Definition

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>countdown</td>
<td>number</td>
<td></td>
<td></td>
<td>Desired total seconds for countdown</td>
</tr>
<tr>
<td>datetime</td>
<td>string</td>
<td>yes</td>
<td></td>
<td>Using ISO 8601 datetime format (e.g: 2007-04-05T14:30Z, 2007-04-05T14:30+09:00)</td>
</tr>
</tbody>
</table>

6.61.6 CRUDN behaviour

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/ClockResURI</td>
<td>get</td>
<td>post</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

6.62 Geolocation

6.62.1 Introduction

This resource describes the properties associated with the current geolocation coordinate. Geolocation is a geolocation coordinate data. Latitude is a device's current Latitude coordinate (degrees). Longitude is a device's current Longitude coordinate (degrees). Altitude is a device's current Altitude position (metres). Accuracy is the accuracy level of the latitude and longitude coordinates (metres). altitudeAccuracy is the accuracy level of the altitude coordinates (metres). heading is a direction of travel of device (degree). speed is a device's current velocity (metres per second).

6.62.2 Example URI

/GeolocationResURI
6.62.3  Resource Type

The resource type (rt) is defined as: oic.r.sensor.geolocation.

6.62.4  RAML Definition

```yaml
#%RAML 0.8

title: OICGeolocation
version: v1.1.0-20160519

traits:
- interface:
  queryParameters:
    if:
      enum: ["oic.if.s", "oic.if.baseline"]

/GeolocationResURI:
  description: |
    This resource describes the properties associated with the current geolocation coordinate.
    Geolocation is a geolocation coordinate data.
    Latitude is a device's current Latitude coordinate (degrees).
    Longitude is a device's current Longitude coordinate (degrees).
    Altitude is a device's current Altitude position (metres).
    Accuracy is the accuracy level of the latitude and longitude coordinates (metres).
    AltitudeAccuracy is the accuracy level of the altitude coordinates (metres).
    heading is a direction of travel of device (degree).
    speed is a device's current velocity (metres per second).

is: ['interface']

get:
  description: |
    Retrieves the current geolocation coordinates.

  responses:
  200:
    body:
      application/json: |
        schema: |
        
        "id": "http://openinterconnect.org/schemas/oic.r.sensor.geolocation#",
        "$schema": "http://json-schema.org/draft-04/schema#",
        "description": "Copyright (c) 2016, 2017 Open Interconnect Consortium, Inc. All rights reserved.",
        "title": "Geolocation",
        "definitions": |
        "oic.r.sensor.geolocation": |
        "type": "object",
        "allOf": |
        ["$ref": "oic.r.altimeter.json#/definitions/oic.r.altimeter"],
        ["properties": |
          "latitude": |
          "type": "number",
          "readOnly": true,
          "description": "Device's Current Latitude coordinate (degrees)"
        ],
        "longitude": |
        "type": "number",
        "readOnly": true,
        "description": "Device's Current Longitude coordinate (degrees)"
        ],
        "accuracy": |
        "type": "number",
        "minimum": 0,
        "readOnly": true,
        "description": "The accuracy level of the latitude and longitude"
coordinates (metres)

{
  "altitudeAccuracy": {
    "type": "number",
    "minimum": 0,
    "readOnly": true,
    "description": "The accuracy level of the altitude coordinates (metres)"
  },
  "heading": {
    "type": "number",
    "minimum": 0,
    "maximum": 360,
    "readOnly": true,
    "description": "Direction of travel of device (degree)"
  },
  "speed": {
    "type": "number",
    "minimum": 0,
    "readOnly": true,
    "description": "Device's current velocity (metres per second)"
  }
}

example:
{
  "rt": ["oic.r.sensor.geolocation"],
  "id": "unique_example_id",
  "latitude": 55.070859,
  "longitude": -3.60512,
  "alt": 12.07,
  "accuracy": 65.0,
  "altitudeAccuracy": 0.0,
  "heading": 90.0,
  "speed": 0.0
}

### Property Definition

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>longitude</td>
<td>number</td>
<td>yes</td>
<td>Read Only</td>
<td>Device's Current Longitude coordinate (degrees)</td>
</tr>
<tr>
<td>latitude</td>
<td>number</td>
<td>yes</td>
<td>Read Only</td>
<td>Device's Current Latitude coordinate (degrees)</td>
</tr>
<tr>
<td>altitudeAccuracy</td>
<td>number</td>
<td></td>
<td>Read Only</td>
<td>The accuracy level of the altitude coordinates (metres)</td>
</tr>
<tr>
<td>speed</td>
<td>number</td>
<td>Read Only</td>
<td>Device’s current velocity (metres per second)</td>
<td></td>
</tr>
<tr>
<td>-------</td>
<td>--------</td>
<td>-----------</td>
<td>---------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>heading</td>
<td>number</td>
<td>Read Only</td>
<td>Direction of travel of device (degree)</td>
<td></td>
</tr>
<tr>
<td>accuracy</td>
<td>number</td>
<td>Read Only</td>
<td>The accuracy level of the latitude and longitude coordinates (metres)</td>
<td></td>
</tr>
</tbody>
</table>

### 6.62.6 CRUDN behaviour

Table 130 Geolocation CRUDN operations

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/GeolocationResURI</td>
<td></td>
<td>get</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### 6.63 Height

##### 6.63.1 Introduction

This resource describes the properties associated with height of an object’s physical size. The unit is a single value that is one of m, cm, ft or in. If the unit Property is missing the default is meters [m]. The unit Property is a read-only value that is provided by the server. When range (from oic.r.baseresource) is omitted the default is 0 to +MAXFLOAT.

##### 6.63.2 Example URI

/HeightResURI

##### 6.63.3 Resource Type

The resource type (rt) is defined as: oic.r.height.

##### 6.63.4 RAML Definition

```raml
#%RAML 0.8
title: OICHeight
version: v1.1.0-20160519
traits:
  - interface:
    queryParameters:
        if:
            enum: ["oic.if.a", "oic.if.baseline"]

/HeightResURI:

description: |
  This resource describes the properties associated with height of an object's physical size.
  The unit is a single value that is one of m, cm, ft or in.
  If the unit Property is missing the default is meters [m].
  The unit Property is a read-only value that is provided by the server.
  When range (from oic.r.baseresource) is omitted the default is 0 to +MAXFLOAT.
  is : ['interface']

get:

description: |
  Retrieves height of an object.

responses :
```
200:

    body:
      application/json:
        schema: |

          "id": "http://openinterconnect.org/schemas/oic.r.height.json#",
          "$schema": "http://json-schema.org/draft-04/schema#",
          "description": "Copyright (c) 2018 Open Connectivity Foundation, Inc. All rights reserved.",
          "title": "Height",
          "definitions": { "oic.r.height": { "type": "object", "properties": { "height": { "type": "number", "minimum": 0, "description": "Height of an object" }, "units": { "type": "string", "readOnly": true, "enum": ["m", "cm", "ft", "in"], "description": "Height unit" } } } },
          "type": "object",
          "allOf": [
            { "$ref": "oic.core.json#/definitions/oic.core"},
            { "$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},
            { "$ref": "#/definitions/oic.r.height"}]
          "required": ["height"]
        }

        example: |

          { "rt": ["oic.r.height"],
            "id": "unique_example_id",
            "height": 1.8,
            "units": "m" }

    post:

      description: |
        Sets the Height.

      body:
        application/json:
          schema: |

            { "id": "http://openinterconnect.org/schemas/oic.r.height.json#",
              "$schema": "http://json-schema.org/draft-04/schema#",
              "description": "Copyright (c) 2018 Open Connectivity Foundation, Inc. All rights reserved.",
              "title": "Height",
              "definitions": { "oic.r.height": { "type": "object", "properties": { "height": { "type": "number", "minimum": 0, "description": "Height of an object" }, "units": { "type": "string", "readOnly": true, "enum": ["m", "cm", "ft", "in"], "description": "Height unit" } } } },
              "type": "object",
              "allOf": [
                { "$ref": "oic.core.json#/definitions/oic.core"},
                { "$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},
                { "$ref": "#/definitions/oic.r.height"}]
              "required": ["height"]
            }

            example: |

              { "rt": ["oic.r.height"],
                "id": "unique_example_id",
                "height": 1.8,
                "units": "m" }
"description": "Height of an object",

"units": {
  "type": "string",
  "readOnly": true,
  "enum": ["m", "cm", "ft", "in"],
  "description": "Height unit"
}

"type": "object",

"allOf": [
  {"$ref": "oic.core.json#/definitions/oic.core"},
  {"$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},
  {"$ref": "#/definitions/oic.r.height"}
],

"required": ["height"]

example: |

   {   "id": "unique_example_id",
       "height": 1.8,
       "units": "m"
   }

responses:

200:

   description: |
   Indicates that the height was successfully changed.
   The new height is provided in the response.

   body:
   application/json:

   schema: |

   
   {   "id": "http://openinterconnect.org/schemas/oic.r.height.json#",
       "$schema": "http://json-schema.org/draft-04/schema#",
       "description": "Copyright (c) 2018 Open Connectivity Foundation, Inc. All rights reserved.",
       "title": "Height",
       "definitions": {
         "oic.r.height": {
           "type": "object",
           "properties": {
             "height": {
               "type": "number",
               "minimum": 0,
               "description": "Height of an object"
             },
             "units": {
               "type": "string",
               "readOnly": true,
               "enum": ["m", "cm", "ft", "in"],
               "description": "Height unit"
             }
           }
         }
       }
     }
example: |

{ "id": "unique_example_id",
  "height": 1.8,
  "units": "m"
}

403:

description: |
Indicates that OCF client sent an invalid property value to the server.
The server responds with the current resource representation.

body:
application/json:

schema: |

{ "id": "http://openinterconnect.org/schemas/oic.r.height.json#",
  "$schema": "http://json-schema.org/draft-04/schema#",
  "description": "Copyright (c) 2018 Open Connectivity Foundation, Inc. All rights reserved.",
  "title": "Height",
  "definitions": {
    "oic.r.height": {
      "type": "object",
      "properties": {
        "height": {
          "type": "number",
          "minimum": 0,
          "description": "Height of an object"
        },
        "units": {
          "type": "string",
          "readOnly": true,
          "enum": ["m", "cm", "ft", "in"],
          "description": "Height unit"
        }
      }
    },
    "allOf": [
      {"$ref": "oic.core.json#/definitions/oic.core"},
      {"$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},
      {"$ref": "#/definitions/oic.r.height"}
    ],
    "required": ["height"]
  }
}

example: |

{ "id": "unique_example_id",
  "height": 1.8,
  "units": "m"
}

6.63.5 Property Definition

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>units</td>
<td>string</td>
<td>Read Only</td>
<td></td>
<td>Height unit</td>
</tr>
</tbody>
</table>

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### 6.63.6 CRUDN behaviour

Table 132 Height CRUDN operations

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/HeightResURI</td>
<td></td>
<td>get</td>
<td>post</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### 6.64 Weight

#### 6.64.1 Introduction

This resource describes the properties associated with weight of an object. The unit is a single value that is one of kg, g, lb or oz. If the unit Property is missing the default is kilograms [kg]. The unit Property is a read-only value that is provided by the server. When range (from oic.r.baseresource) is omitted the default is 0 to +MAXFLOAT.

#### 6.64.2 Example URI

/WeightResURI

#### 6.64.3 Resource Type

The resource type (rt) is defined as: oic.r.weight.

#### 6.64.4 RAML Definition

```yaml
#%RAML 0.8
title: OICWeight
version: v1.1.0-20160519
traits:
  - interface:
    queryParameters:
      if:
        enum: ["oic.if.s", "oic.if.baseline"]

/WeightResURI:
  description: | This resource describes the properties associated with weight of an object.
  is: [\'interface\']
  get:
    description: | Retrieves weight of an object.
    responses:
      200:
        body:
          application/json:
            schema: |
            {
              "id": "http://openinterconnect.org/schemas/oic.r.weight.json#",
              "$schema": "http://json-schema.org/draft-04/schema#",
              "description": "Copyright (c) 2018 Open Connectivity Foundation, Inc. All rights reserved.",
              "title": "Weight",
              "definitions": |
```
"oic.r.weight": {
    "type": "object",
    "properties": {
        "weight": {
            "type": "number",
            "minimum": 0,
            "readOnly": true,
            "description": "Weight of an object"
        },
        "units": {
            "type": "string",
            "readOnly": true,
            "enum": ["kg", "g", "lb", "oz"],
            "description": "Weight unit"
        }
    }
},
"type": "object",
"allOf": [
    {"$ref": "oic.core.json#/definitions/oic.core"},
    {"$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},
    {"$ref": "#/definitions/oic.r.weight"}
],
"required": ["weight", "units"]
}

example: |
{
    "rt": ["oic.r.weight"],
    "id": "unique_example_id",
    "weight": 80.0,
    "units": "kg"
}

6.64.5 Property Definition

Table 133 Weight Property Definitions

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>units</td>
<td>string</td>
<td>yes</td>
<td>Read Only</td>
<td>Weight unit</td>
</tr>
<tr>
<td>weight</td>
<td>number</td>
<td>yes</td>
<td>Read Only</td>
<td>Weight of an object</td>
</tr>
</tbody>
</table>

6.64.6 CRUDN behaviour

Table 134 Weight CRUDN operations

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/WeightResURI</td>
<td></td>
<td>get</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

6.65 Air Quality

6.65.1 Introduction

This resource describes a qualitative or measured contaminant that can be used to infer Air Quality. Measured is the actual sensed value with units per contaminant type as described below. Qualitative is a representative value within the range provided where the minimum value is minimum contamination and maximum value is maximum contamination for the specific contaminant. The valueType indicates a qualitative or measured reading within the contaminantvalue Property. contaminantvalue contains the actual measured or qualitative level. range contains the allowed range for the value that is being reported (from oic.r.baseresource). If valueType is 'Measured' then the units for the contaminant types are as follows: Methanal (also known as Formaldehyde): CH2O (ug/m^3), Carbon Dioxide: CO2 (ppm), Carbon Monoxide: CO (ppm), Particulate Matter
(less than 2.5 microns in diameter): PM2.5 (ug/m^3), Particulate Matter (less than 10 microns in diameter): PM10 (ug/m^3), Volatile Organic Compounds: VOC (ug/m^3)

### 6.65.2 Example URI

/AirQualityResURI

### 6.65.3 Resource Type

The resource type (rt) is defined as: oic.r.airquality.

### 6.65.4 RAML Definition

```plaintext
#%RAML 0.8

title: OICAirQuality
version: v1.1.0-20160519

traits:
- interface :
  queryParameters:
    if:
      enum: ["oic.if.s", "oic.if.baseline"]

/AirQualityResURI:

description: |
  This resource describes a qualitative or measured contaminant that can be used to infer Air Quality. Measured is the actual sensed value with units per contaminant type as described below. Qualitative is a representative value within the range provided where the minimum value is minimum contamination and maximum value is maximum contamination for the specific contaminant. The valueType indicates a qualitative or measured reading within the contaminantvalue Property. contaminantvalue contains the actual measured or qualitative level. range contains the allowed range for the value that is being reported (from oic.r.baseresource).

  If valueType is 'Measured' then the units for the contaminant types are as follows:
  Methanal (also known as Formaldehyde): CH2O (ug/m^3),
  Carbon Dioxide: CO2 (ppm),
  Carbon Monoxide: CO (ppm),
  Particulate Matter (less than 2.5 microns in diameter): PM2.5 (ug/m^3),
  Particulate Matter (less than 10 microns in diameter): PM10 (ug/m^3),
  Volatile Organic Compounds: VOC (ug/m^3)

is : ['interface']

get:

description: |
  Retrieves the current air quality.

responses :
  200:
    body:
      application/json:
        schema: |
          
```

Copyright Open Connectivity Foundation, Inc. © 2016-18. All rights Reserved
"description": "The measured or qualitative value for the contaminant."
},
"contaminanttype": {
  "type": "string",
  "enum": [
    "CH2O","CO2","CO","PM2.5","PM10","VOC","Smoke","Odor","AirPollution"],
  "description": "The contaminant being measured.",
  "readOnly": true
},
"valuetype": {
  "type": "string",
  "enum": ["Qualitative","Measured"],
  "description": "Indicates whether the provided value is qualitative or measured.",
  "readOnly": true
}
},

example: |
{
  "rt": ["oic.r.airquality"],
  "id": "unique_example_id",
  "contaminanttype": "CO",
  "valuetype": "Measured",
  "contaminantvalue": 10,
  "range": [0,500]
}

### 6.65.5 Property Definition

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>valuetype</td>
<td>string</td>
<td>yes</td>
<td>Read Only</td>
<td>Indicates whether the provided value is qualitative or measured.</td>
</tr>
<tr>
<td>contaminantvalue</td>
<td>integer</td>
<td>yes</td>
<td>Read Only</td>
<td>The measured or qualitative value for the contaminant.</td>
</tr>
<tr>
<td>contaminanttype</td>
<td>string</td>
<td>yes</td>
<td>Read Only</td>
<td>The contaminant being measured.</td>
</tr>
</tbody>
</table>

### 6.65.6 CRUDN behaviour

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/AirQualityResURI</td>
<td></td>
<td>get</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### AirQualityBaselineResURI

#### Introduction

#### Example URI

#### Resource Type

#### RAML Definition

```yaml
title: OICTitle
version: v1.1.0-20160519
traits:
- interface-ll :
  queryParameters:
    if:
      enum: ["oic.if.ll"]
- interface-baseline :
  queryParameters:
    if:
      enum: ["oic.if.baseline"]
- interface-all :
  queryParameters:
    if:
      enum: ["oic.if.ll", "oic.if.baseline"]
```

#### Property Definition

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>links</td>
<td>array: see schema</td>
<td></td>
<td></td>
<td>A set of simple or individual OIC Links.</td>
</tr>
<tr>
<td>rt (links)</td>
<td>array: see schema</td>
<td>yes</td>
<td></td>
<td>Resource Type of the Resource</td>
</tr>
<tr>
<td>di (links)</td>
<td>string</td>
<td></td>
<td></td>
<td>The Device ID formatted according to IETF RFC 4122.</td>
</tr>
<tr>
<td>title (links)</td>
<td>string</td>
<td></td>
<td></td>
<td>A title for the link relation. Can be used by the UI to provide a context.</td>
</tr>
<tr>
<td>eps (links)</td>
<td>array: see schema</td>
<td></td>
<td></td>
<td>the Endpoint information of the target Resource</td>
</tr>
<tr>
<td>ins (links)</td>
<td>integer</td>
<td></td>
<td></td>
<td>The instance identifier for this web link in an array of web links - used in collections</td>
</tr>
<tr>
<td>p (links)</td>
<td>object: see schema</td>
<td></td>
<td></td>
<td>Specifies the framework</td>
</tr>
</tbody>
</table>

Table 137 AirQualityBaselineResURI Property Definitions
6.66.6 CRUDN behaviour

Table 138 AirQualityBaselineResURI CRUDN operations

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
</table>

6.66.7 Referenced JSON schemas

6.66.7.1 oic.collection-schema.json

```json
{
  "$schema": "http://json-schema.org/draft-04/schema#",
  "description": "Copyright (c) 2016,2018 Open Connectivity Foundation, Inc. All rights reserved.",
  "id": "http://www.openconnectivity.org/ocf-apis/core/schemas/oic.collection-schema.json#",
  "title": "Collection",
  "definitions": {
    "oic.oic-link": {
      "type": "object",
      "properties": {
        "href": {
          "type": "string",
          "maxLength": 256,
          "description": "This is the target URI, it can be specified as a Relative Reference or fully-qualified URI."
        },
        "rel": multiple types: see schema
      }
    }
  }
}
```
"rel": {
  "oneOf": [
    {
      "type": "array",
      "items": {
        "type": "string",
        "maxLength": 64
      },
      "minItems": 1,
      "default": ["hosts"]
    },
    {
      "type": "string",
      "maxLength": 64,
      "default": "hosts"
    }
  ],
  "description": "The relation of the target URI referenced by the link to the context URI"
},
"rt": {
  "type": "array",
  "items": {
    "type": "string",
    "maxLength": 64
  },
  "minItems": 1,
  "description": "Resource Type of the Resource"
},
"if": {
  "type": "array",
  "items": {
    "type": "string",
    "enum": ["oic.if.baseline", "oic.if.ll", "oic.if.b", "oic.if.rw", "oic.if.r", "oic.if.a", "oic.if.s"]
  },
  "minItems": 1,
  "description": "The interface set supported by this resource"
},
"di": {
  "description": "The Device ID formatted according to IETF RFC 4122",
  "type": "string",
  "pattern": "^[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{12}$"
},
"p": {
  "description": "Specifies the framework policies on the Resource referenced by the target URI",
  "type": "object",
  "properties": {
    "hm": {
      "description": "Specifies the framework policies on the Resource referenced by the target URI for e.g. observable and discoverable",
      "type": "integer"
    },
    "title": {
      "type": "string",
      "maxLength": 64,
      "description": "A title for the link relation. Can be used by the UI to provide a context."
    },
    "anchor": {
      "type": "string",
      "maxLength": 256,
      "description": "This is used to override the context URI e.g. override the URI of the containing collection."
    },
    "format": "uri"
  }
}
"ins": {
  "type": "integer",
  "description": "The instance identifier for this web link in an array of web links - used in collections"
},
"type": {
  "type": "array",
  "description": "A hint at the representation of the resource referenced by the target URI. This represents the media types that are used for both accepting and emitting.",
  "items": [{
    "type": "string",
    "maxLength": 64
  }],
  "minItems": 1,
  "default": "application/cbor"
},
"eps": {
  "type": "array",
  "description": "the Endpoint information of the target Resource",
  "items": {
    "type": "object",
    "properties": {
      "ep": {
        "type": "string",
        "format": "uri",
        "description": "Transport Protocol Suite + Endpoint Locator"
      },
      "pri": {
        "type": "integer",
        "minimum": 1,
        "description": "The priority among multiple Endpoints"
      }
    }
  }
},
"required": [ "href", "rt", "if" ]
},
"oic.collection.links.arrayoflinks": {
  "properties": {
    "links": {
      "description": "A set of simple or individual OIC Links.",
      "type": "array",
      "items": {
        "properties": {
          "type": "object",
          "href": {
            "type": "string",
            "maxLength": 256,
            "description": "This is the target URI, it can be specified as a Relative Reference or fully-qualified URI.",
            "format": "uri"
          },
          "rel": {
            "oneOf": [{
              "type": "array",
              "items": {
                "type": "string",
                "maxLength": 64
              }
            },
            {
              "type": "string",
              "maxLength": 64,
              "default": "hosts"
            }]
          },
          "description": "The relation of the target URI referenced by the link to the
"rt": {
  "type": "array",
  "items": {
    "type": "string",
    "maxLength": 64
  },
  "minItems": 1,
  "description": "Resource Type of the Resource"
},
"if": {
  "type": "array",
  "items": {
    "type": "string",
    "enum": ["oic.if.baseline", "oic.if.ll", "oic.if.b", "oic.if.rw", "oic.if.r",
    "oic.if.s" ]
  },
  "minItems": 1,
  "description": "The interface set supported by this resource"
},
"di": {
  "description": "The Device ID formatted according to IETF RFC 4122.",
  "type": "string",
  "pattern": "^[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{12}$"
},
"p": {
  "description": "Specifies the framework policies on the Resource referenced by the target URI",
  "type": "object",
  "properties": {
    "bm": {
      "description": "Specifies the framework policies on the Resource referenced by the target URI for e.g. observable and discoverable",
      "type": "integer"
    }
  },
  "required": ["bm"]
},
"title": {
  "type": "string",
  "maxLength": 64,
  "description": "A title for the link relation. Can be used by the UI to provide a context."
},
"anchor": {
  "type": "string",
  "maxLength": 256,
  "description": "This is used to override the context URI e.g. override the URI of the containing collection.",
  "format": "uri"
},
"ins": {
  "type": "integer",
  "description": "The instance identifier for this web link in an array of web links - used in collections"
},
"type": {"array",
"description": "A hint at the representation of the resource referenced by the target URI. This represents the media types that are used for both accepting and emitting.",
"items": {
  "type": "string",
  "maxLength": 64
},
"minItems": 1,
"default": "application/cbor"
},
"eps": {
  "type": "array",
  "description": "Resource Type of the Resource"
"description": "the Endpoint information of the target Resource",
"items": {
  "type": "object",
  "properties": {
    "ep": {
      "type": "string",
      "format": "uri",
      "description": "Transport Protocol Suite + Endpoint Locator"
    },
    "pri": {
      "type": "integer",
      "minimum": 1,
      "description": "The priority among multiple Endpoints"
    }
  }
},
"required": ["href", "rt", "if"]
},
"oic.core": {
  "type": "object",
  "properties": {
    "rt": {
      "type": "array",
      "items": {
        "type": "string",
        "maxLength": 64
      },
      "minItems": 1,
      "readOnly": true,
      "description": "Resource Type of the Resource"
    }
  }
},
"uuid": {
  "description": "Format pattern according to IETF RFC 4122.",
  "type": "string",
  "pattern": "^[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{12}$"
},
"oic.collection.links": {
  "properties": {
    "links": {
      "type": "array",
      "description": "A set of simple or individual OIC Links.",
      "items": {
        "$ref": "#/definitions/oic.oic-link"
      }
    }
  }
},
"oic.collection.properties": {
  "type": "object",
  "description": "A collection is a set of links along with additional properties to describe the collection itself",
  "properties": {
    "rts": {
      "$ref": "#/definitions/oic.core/properties/rt",
      "description": "The list of allowable resource types (for Target and anchors) in links included in the collection"
    }
  }
},
"type": "object",
"allOf": [
  {"$ref": "oic.core-schema.json#/definitions/oic.core"},
  {"$ref": "#/definitions/oic.collection.properties"}
]
6.67 Consumable

6.67.1 Introduction

This resource specifies a thing that can be consumed such as filter material, printer toner etc. The type is an enumeration defining the thing being consumed as defined by the Smart Home Device Specification. The remaining is an integer capturing the percentage remaining life. The orderpercentage is an integer capturing the percentage life at which replacement or replenishment is recommended by the manufacturer. The url is a string containing a URL at which further information may be obtained with respect to the consumable.

6.67.2 Example URI

/ConsumableResURI

6.67.3 Resource Type

The resource type (rt) is defined as: oic.r.consumable.

6.67.4 RAML Definition

```json
#%RAML 0.8

title: OICConsumables
version: OCF-v1.0.0-20160620
traits:
  - interface :
      queryParameters:
        if:
          enum: ["oic.if.s", "oic.if.baseline"]

/ConsumableResURI:

description: |
  This resource specifies a thing that can be consumed such as filter material, printer toner etc.
  The type is an enumeration defining the thing being consumed as defined by the Smart Home Device Specification.
  The remaining is an integer capturing the percentage remaining life.
  The orderpercentage is an integer capturing the percentage life at which replacement or replenishment is recommended by the manufacturer.
  The url is a string containing a URL at which further information may be obtained with respect to the consumable.

is: ['interface']
get:
  responses :
    200:
      body:
        application/json:
          schema: |
            |
```

Copyright Open Connectivity Foundation, Inc. © 2016-18. All rights Reserved
"description": "Thing that is being consumed.",
"readOnly": true
},
"remaining": {
  "type": "integer",
  "description": "Percentage remaining lifespan.",
  "readOnly": true,
  "minimum": 0,
  "maximum": 100
},
"orderpercentage": {
  "type": "integer",
  "description": "Percentage at which re-ordering is recommended by the manufacturer",
  "readOnly": true,
  "minimum": 0,
  "maximum": 100
},
"url": {
  "type": "string",
  "format": "uri",
  "description": "URL at which additional ordering information may be found.",
  "readOnly": true
}
}
}

"type": "object",
"allOf": [
  {"$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},
  {"$ref": "#/definitions/oic.r.consumable"}
],
"required": ["typeofconsumable","remaining"]
}

example: |
{ 
  "rt": ["oic.r.consumable"],
  "id": "unique_example_id",
  "typeofconsumable": "tonerBlack",
  "remaining": 20,
  "orderpercentage": 10,
  "url": "http://myreorderURL"
}

### Property Definition

#### Table 139 Consumable Property Definitions

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>url</td>
<td>string</td>
<td></td>
<td>Read Only</td>
<td>URL at which additional ordering information may be found.</td>
</tr>
<tr>
<td>typeofconsumable</td>
<td>string</td>
<td>yes</td>
<td>Read Only</td>
<td>Thing that is being consumed.</td>
</tr>
<tr>
<td>remaining</td>
<td>integer</td>
<td>yes</td>
<td>Read Only</td>
<td>Percentage remaining lifespan.</td>
</tr>
<tr>
<td>orderpercentage</td>
<td>integer</td>
<td></td>
<td>Read Only</td>
<td>Percentage at which re-ordering is recommended</td>
</tr>
</tbody>
</table>
6.67.6 CRUDN behaviour

Table 140 Consumable CRUDN operations

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/ConsumableResURI</td>
<td>get</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

6.68 ConsumablesBaselineResURI

6.68.1 Introduction

6.68.2 Example URI

6.68.3 Resource Type

6.68.4 RAML Definition

```markdown
#%RAML 0.8

title: OICConsumables

version: OCF-v1.0.0-20160620

traits:
- interface-ll :
  queryParameters:
    if: enum: ["oic.if.ll"]

- interface-baseline :
  queryParameters:
    if: enum: ["oic.if.baseline"]

- interface-all :
  queryParameters:
    if: enum: ["oic.if.ll", "oic.if.baseline"]
```

6.68.5 Property Definition

Table 141 ConsumablesBaselineResURI Property Definitions

<table>
<thead>
<tr>
<th>Property name (links)</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>links</td>
<td>array: see schema</td>
<td></td>
<td></td>
<td>A set of simple or individual OIC Links.</td>
</tr>
<tr>
<td>rt</td>
<td>array: see schema</td>
<td>yes</td>
<td></td>
<td>Resource Type of the Resource</td>
</tr>
<tr>
<td>di</td>
<td>string</td>
<td></td>
<td></td>
<td>The Device ID formatted according to IETF RFC 4122.</td>
</tr>
<tr>
<td>title</td>
<td>string</td>
<td></td>
<td></td>
<td>A title for the link relation. Can be used by the UI to provide a context.</td>
</tr>
<tr>
<td>eps</td>
<td>array: see schema</td>
<td></td>
<td></td>
<td>the Endpoint information of the target Resource</td>
</tr>
<tr>
<td><strong>ins (links)</strong></td>
<td><strong>integer</strong></td>
<td><strong>The instance identifier for this web link in an array of web links - used in collections</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-----------------</td>
<td>-------------</td>
<td>-----------------------------------------------------------------------------------------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>p (links)</strong></td>
<td>object: see schema</td>
<td>Specifies the framework policies on the Resource referenced by the target URI</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>href (links)</strong></td>
<td>string</td>
<td>yes</td>
<td>This is the target URI, it can be specified as a Relative Reference or fully-qualified URI.</td>
<td></td>
</tr>
<tr>
<td><strong>rel (links)</strong></td>
<td>multiple types: see schema</td>
<td>The relation of the target URI referenced by the link to the context URI</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>type (links)</strong></td>
<td>array: see schema</td>
<td>A hint at the representation of the resource referenced by the target URI. This represents the media types that are used for both accepting and emitting.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>anchor (links)</strong></td>
<td>string</td>
<td>This is used to override the context URI e.g. override the URI of the containing collection.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>if (links)</strong></td>
<td>array: see schema</td>
<td>yes</td>
<td>The interface set supported by this resource</td>
<td></td>
</tr>
</tbody>
</table>

### 6.68.6 CRUDN behaviour

<table>
<thead>
<tr>
<th><strong>Resource</strong></th>
<th><strong>Create</strong></th>
<th><strong>Read</strong></th>
<th><strong>Update</strong></th>
<th><strong>Delete</strong></th>
<th><strong>Notify</strong></th>
</tr>
</thead>
</table>

### 6.68.7 Referenced JSON schemas

#### 6.68.7.1 oic.collection-schema.json

```json
{
  "$schema": "http://json-schema.org/draft-04/schema#",
  "description": "Copyright (c) 2016,2018 Open Connectivity Foundation, Inc. All rights reserved.",
  "id": "http://www.openconnectivity.org/ocf-apis/core/schemas/oic.collection-schema.json#",
  "title": "Collection",
}
```
"definitions": {
  "oic.oic-link": {
    "type": "object",
    "properties": {
      "href": {
        "type": "string",
        "maxLength": 256,
        "description": "This is the target URI, it can be specified as a Relative Reference or fully-qualified URI.",
        "format": "uri"
      },
      "rel": {
        "oneOf": [
          {
            "type": "array",
            "items": {
              "type": "string",
              "maxLength": 64
            }
          },
          {
            "type": "string",
            "maxLength": 64,
            "default": "hosts"
          }
        ],
        "description": "The relation of the target URI referenced by the link to the context URI"
      },
      "rt": {
        "type": "array",
        "items": {
          "type": "string",
          "maxLength": 64
        },
        "minItems": 1,
        "default": ["hosts"
      },
      "if": {
        "type": "array",
        "items": {
          "type": "string",
          "enum": ["oic.if.baseline", "oic.if.ll", "oic.if.b", "oic.if.rw", "oic.if.r", "oic.if.a", "oic.if.s"
        ],
        "minItems": 1,
        "description": "Resource Type of the Resource"
      },
      "di": {
        "description": "The Device ID formatted according to IETF RFC 4122.",
        "type": "string",
        "pattern": "%[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{12}%"
      },
      "p": {
        "description": "Specifies the framework policies on the Resource referenced by the target URI",
        "type": "object",
        "properties": {
          "oic.of.bm": {
            "description": "Specifies the framework policies on the Resource referenced by the target URI for e.g. observable and discoverable",
            "type": "integer"
          }
        },
        "required": ["bm"]
      },
      "title": {
        "type": "string",
        "maxLength": 64,
"description": "A title for the link relation. Can be used by the UI to provide a context."
"anchor": {
"type": "string",
"maxLength": 256,
"description": "This is used to override the context URI e.g. override the URI of the containing collection."
"format": "uri"
},
"ins": {
"type": "integer",
"description": "The instance identifier for this web link in an array of web links - used in collections"
},
"type": {
"type": "array",
"description": "A hint at the representation of the resource referenced by the target URI. This represents the media types that are used for both accepting and emitting."
"items": {
"type": "string",
"maxLength": 64
},
"minItems": 1,
"default": "application/cbor"
},
"eps": {
"type": "array",
"description": "the Endpoint information of the target Resource",
"items": {
"type": "object",
"properties": {
"ep": {
"type": "string",
"format": "uri",
"description": "Transport Protocol Suite + Endpoint Locator"
},
"pri": {
"type": "integer",
"minimum": 1,
"description": "The priority among multiple Endpoints"
}
}
},
"required": [ "href", "rt", "if" ]
},
"oic.collection.links.arrayoflinks": {
"properties": {
"links": {
"description": "A set of simple or individual OIC Links."
"type": "array",
"items": {
"type": "object",
"properties": {
"href": {
"type": "string",
"maxLength": 256,
"description": "This is the target URI, it can be specified as a Relative Reference or fully-qualified URI."
"format": "uri"
},
"rel": {
"oneOf": [
"type": "array",
"items": {
"type": "string",
"maxLength": 64
}
]
},
"maxItems": 64,
"default": "application/cbor"
},
"minItems": 1,
"description": "The priority among multiple Endpoints"
}
}
"minItems": 1,
"default": ["hosts"]
},

{"type": "string",
"maxLength": 64,
"default": "hosts"
},

"description": "The relation of the target URI referenced by the link to the context URI",

"rt": {
"type": "array",
"items": {
"type": "string",
"maxLength": 64
},

"minItems": 1,
"description": "Resource Type of the Resource",

"if": {
"type": "array",
"items": {
"type": "string",
"enum": ["oic.if.baseline", "oic.if.ll", "oic.if.b", "oic.if.rw", "oic.if.r", "oic.if.a", "oic.if.s"]
},

"minItems": 1,
"description": "The interface set supported by this resource",

"di": {
"description": "The Device ID formatted according to IETF RFC 4122.",
"type": "string",

"pattern": "^[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{12}$"
},

"p": {
"description": "Specifies the framework policies on the Resource referenced by the target URI",
"type": "object",

"properties": {
"bm": {
"description": "Specifies the framework policies on the Resource referenced by the target URI for e.g. observable and discoverable",
"type": "integer"
}
},

"required": ["bm"]
},

"title": {
"type": "string",
"maxLength": 64,
"description": "A title for the link relation. Can be used by the UI to provide a context."
},

"anchor": {
"type": "string",
"maxLength": 256,
"description": "This is used to override the context URI e.g. override the URI of the containing collection.",

"format": "uri"
},

"ins": {
"type": "integer",
"description": "The instance identifier for this web link in an array of web links - used in collections"
}
},

"type": {
"type": "array",
"description": "A hint at the representation of the resource referenced by the
target URI. This represents the media types that are used for both accepting and emitting.

```
"items": {
  "type": "string",
  "maxLength": 64
},
"minItems": 1,
"default": "application/cbor"
},
"eps": {
  "type": "array",
  "description": "the Endpoint information of the target Resource",
  "items": {
    "type": "object",
    "properties": {
      "ep": {
        "type": "string",
        "format": "uri",
        "description": "Transport Protocol Suite + Endpoint Locator"
      },
      "pri": {
        "type": "integer",
        "minimum": 1,
        "description": "The priority among multiple Endpoints"
      }
    }
  }
}
```

```
"required": [ "href", "rt", "if" ]
```

```
"oic.core": {
  "type": "object",
  "properties": {
    "rt": {
      "type": "array",
      "items" : {
        "type" : "string",
        "maxLength": 64
      },
      "minItems": 1,
      "readOnly": true,
      "description": "Resource Type of the Resource"
    }
  }
}
```

```
"uuid": {
  "description": "Format pattern according to IETF RFC 4122.",
  "type": "string",
  "pattern": "^[\{[a-fA-F0-9]{8}\}-[a-fA-F0-9]{4}\-{[a-fA-F0-9]{4}\}-{[a-fA-F0-9]{12}$"
},
```

```
"oic.collection.links": {
  "properties": {
    "links": {
      "description": "A set of simple or individual OIC Links.",
      "type": "array",
      "items": {
        "$ref": "#/definitions/oic.oic-link"
      }
    }
  }
}
```

```
"oic.collection.properties": {
  "type": "object",
  "description": "A collection is a set of links along with additional properties to describe the collection itself",
  "properties": {
    "rts": {
      "$ref": "#/definitions/oic.core/properties/rt"
    }
  }
}
```
6.69 Delay Defrost

6.69.1 Introduction

This resource describes the delay defrost function as defined by the US Energy Star Specifications. See Energy Star Refrigerator Requirements Version 5 Section 4)G (https://www.energystar.gov/sites/default/files/specs//private/ENERGY%20STAR%20Final%20Version%2005.0%20Residential%20Refrigerators%20and%20Freezers%20Program%20Requirements.pdf) The status is a boolean indicating whether the function is on, if off then defrost is scheduled as part of normal device operation. startTime, from oir.r.time.period (mandatory) is an ISO8601 encoded start time for the interval in which defrost shall not occur. stopTime, from oic.r.time.period is an ISO8601 encoded stop time for the interval in which defrost shall not occur. interval, from oic.r.time.period with additional range restrictions is the time in minutes of the period that starts at startTime (if not present the default is 240). stopTime and interval are mutually exclusive; they cannot both be present in a Resource instance

6.69.2 Example URI

/ DelayDefrostResURI

6.69.3 Resource Type

The resource type (rt) is defined as: oic.r.delaydefrost.

6.69.4 RAML Definition

```
#%RAML 0.8

title: OICDelayDefrost
version: OCF_v1.0.0-2016

traits:
  - interface:

    queryParameters:
      if:
        enum: ["oic.if.a", "oic.if.baseline"]

/DelayDefrostResURI:

  description: |
      This resource describes the delay defrost function as defined by the US Energy Star

      The status is a boolean indicating whether the function is on, if off then defrost is scheduled
      as part of normal device operation.

      startTime, from oir.r.time.period (mandatory) is an ISO8601 encoded start time for the interval
      in which defrost shall not occur.

      stopTime, from oic.r.time.period is an ISO8601 encoded stop time for the interval in which
      defrost shall not occur.

      interval, from oic.r.time.period with additional range restrictions is the time in minutes of
      the period that starts at startTime (if not present the default is 240).

      stopTime and interval are mutually exclusive; they cannot both be present in a Resource instance.
```
instance
is: ['interface']

get:

description: |
Retrieves the current Delay Defrost function status

responses:
200:
body:
application/json:

  schema:
  |
  |
  { "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.delaydefrost.json#", "$schema": "http://json-schema.org/draft-04/schema#", "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All rights reserved.", "title": "Delay Defrost", "definitions": { "oic.r.delaydefrost": { "type": "object", "allOf": [ { "$ref": "oic.r.time.period.json#/definitions/oic.r.time.period" }, { "properties": { "interval": { "type": "integer", "description": "Defrost interval as defined by Energy Star", "minimum": 1, "maximum": 1440, "default": 240 }, "status": { "type": "boolean", "description": "Indicates whether any supported delay defrost function is active" } }, "required": ["status"] } ] } ], "type": "object", "allOf": [ { "$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"}, {"$ref": "#/definitions/oic.r.delaydefrost"} ] }

  example: |
  |
  { "rt": ["oic.r.delaydefrost"], "id": "unique_example_id", "startTime": "06:00Z", "status": false }

post:

description: |
Activates the desired Delay Defrost functions
Copyright Open Connectivity Foundation, Inc. © 2016-18. All rights Reserved 246
"title": "Delay Defrost",
"definitions": {
  "oic.r.delaydefrost": {
    "type": "object",
    "allOf": [
      {
        "$ref": "oic.r.time.period.json#/definitions/oic.r.time.period"
      },
      {
        "properties": {
          "interval": {
            "type": "integer",
            "description": "Defrost interval as defined by Energy Star",
            "minimum": 1,
            "maximum": 1440,
            "default": 240
          },
          "status": {
            "type": "boolean",
            "description": "Indicates whether any supported delay defrost function is active"
          }
        },
        "required": ["status"]
      }
    ],
    "type": "object",
    "allOf": [
      {"$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},
      {"$ref": "#/definitions/oic.r.delaydefrost"}
    ]
  }
}

example: |
  
  {"id": "unique_example_id",
   "status": true,
   "startTime": "06:00Z",
   "interval": 180
  }

403:

description: |
  Indicates the update to the time properties was rejected.
Reasons for rejection: invalid time entry
The current unchanged representation may be provided in the response.

body:

application/json:

  schema: |
    
    {"id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.delaydefrost.json#",
     "$schema": "http://json-schema.org/draft-04/schema#",
     "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All rights reserved.",
     "title": "Delay Defrost",
     "definitions": {
       "oic.r.delaydefrost": {
         "type": "object",
         "allOf": [
           {
             "$ref": "oic.r.time.period.json#/definitions/oic.r.time.period"
           }
         ]
       }
    }"
"properties": {
  "interval": {
    "type": "integer",
    "description": "Defrost interval as defined by Energy Star",
    "minimum": 1,
    "maximum": 1440,
    "default": 240
  },
  "status": {
    "type": "boolean",
    "description": "Indicates whether any supported delay defrost function is active"
  }
},
"required": ["status"]
}

example: |
{
  "id": "unique_example_id",
  "status": true,
  "startTime": "06:00Z",
  "interval": 180
}

### 6.69.5 Property Definition

#### Table 143 Delay Defrost Property Definitions

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>status</td>
<td>boolean</td>
<td>yes</td>
<td></td>
<td>Indicates whether any supported delay defrost function is active</td>
</tr>
<tr>
<td>interval</td>
<td>integer</td>
<td></td>
<td></td>
<td>Defrost interval as defined by Energy Star</td>
</tr>
<tr>
<td>stopTime</td>
<td>string</td>
<td></td>
<td></td>
<td>Stop time for the time period, if present interval cannot be present</td>
</tr>
<tr>
<td>startTime</td>
<td>string</td>
<td>yes</td>
<td></td>
<td>Start time for the time period</td>
</tr>
<tr>
<td>interval</td>
<td>integer</td>
<td></td>
<td></td>
<td>Time interval in minutes after the startTime, if present stopTime cannot be present</td>
</tr>
</tbody>
</table>
6.69.6 CRUDN behaviour

Table 144 Delay Defrost CRUDN operations

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/DelayDefrostResURI</td>
<td>get</td>
<td>post</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

6.69.7 Referenced JSON schemas

6.69.7.1 oic.r.time.period.json

```json
{
  "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.time.period.json#",
  "$schema": "http://json-schema.org/draft-04/schema#",
  "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All rights reserved.",
  "title": "Time Period",
  "definitions": {
    "oic.r.time.period": {
      "type": "object",
      "properties": {
        "startTime": {
          "type": "string",
          "description": "Start time for the time period"
        },
        "stopTime": {
          "type": "string",
          "description": "Stop time for the time period, if present interval cannot be present"
        },
        "interval": {
          "type": "integer",
          "description": "Time interval in minutes after the startTime, if present stopTime cannot be present"
        }
      },
      "required": ["startTime"]
    }
  },
  "allOf": [
    {"$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},
    {"$ref": "#/definitions/oic.r.time.period"}
  ]
}
```

6.70 Eco Mode

6.70.1 Introduction

This resource specifies the supported and currently active Eco Mode of a Device. The Resource uses the existing schema for Mode (oic.r.mode) with a restriction that the population of supported modes and modes Properties is restricted to the set of values given below: "disabled", "enabled", "notsupported". The adminforced Property indicates that the value has been set by another party (e.g. via some offboard Smart Energy interaction).

6.70.2 Example URI

/EcomodeResURI

6.70.3 Resource Type

The resource type (rt) is defined as: oic.r.ecomode.

6.70.4 RAML Definition

```yaml
#%RAML 0.8

title: OIC Ecomode
version: OCF-v1.0.0-20160620
traits:
- interface :
```

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queryParameters:
  if:
    enum: ["oic.if.a", "oic.if.baseline"]

/EcomodeResURI:
  description: |
  This resource specifies the supported and currently active Eco Mode of a Device
  The Resource uses the existing schema for Mode (oic.r.mode) with a restriction that the
  population of supportedModes and modes Properties is restricted to the set of values given below:
  "disabled","enabled","notsupported"
  The adminforced Property indicates that the value has been set by another party (e.g
  via some offboard Smart Energy interaction)
  is : ['interface']
  get:
    responses :
      200:
        body:
          application/json:
            schema: |
            
            { "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.ecomode#",
              "$schema": "http://json-schema.org/draft-04/schema#",
              "description" : "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All
              rights reserved.",
              "title": "Eco Mode",
              "definitions": { "oic.r.ecomode": { "type": "object",
                "allOf": [ { "$ref": "oic.r.mode.json#/definitions/oic.r.mode" },
                { "properties": { "adminforced": { "type": "boolean",
                  "readOnly": true,
                  "description": "Indicator that the current mode of operation has
                  been forced by admin action." }
                } },
                ] }
            } },
            "type": "object",
            "allOf": [ { "$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},
            { "$ref": "#/definitions/oic.r.ecomode" }
            ],
            "required": ["supportedModes","modes"]
            }

            example: |
            |
            { "rt": ["oic.r.ecomode"],
              "id": "unique_example_id",
              "supportedModes": ["disabled","enabled"],
              "modes": ["disabled"],
              "adminforced": false
            }
  post:
body:
application/json:
schema: |

    {
        "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.ecomode-Update#",
        "$schema": "http://json-schema.org/draft-04/schema#",
        "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All rights reserved.",
        "title": "Eco Mode",
        "definitions": |
            { "oic.r.ecomode": { "type": "object", "allOf": |
                "$ref": "oic.r.mode-update.json#/definitions/oic.r.mode"
            } }
        
        example: |
            { "id": "unique_example_id", "modes": ["enabled"] }
    }

responses:
200: 
    body: 
        application/json:
        schema: |
            {
                "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.ecomode-Update#",
                "$schema": "http://json-schema.org/draft-04/schema#",
                "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All rights reserved.",
                "title": "Eco Mode",
                "definitions": |
                    { "oic.r.ecomode": { "type": "object", "allOf": |
                        "$ref": "oic.r.mode-update.json#/definitions/oic.r.mode"
                    } }
                
                example: |
                    { "id": "unique_example_id", 
                

6.70.5 Property Definition

Table 145 Eco Mode Property Definitions

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>adminforced</td>
<td>boolean</td>
<td></td>
<td>Read Only</td>
<td>Indicator that the current mode of operation has been forced by admin action.</td>
</tr>
<tr>
<td>supportedModes</td>
<td>array: see schema</td>
<td>yes</td>
<td>Read Only</td>
<td>Array of possible modes the device supports.</td>
</tr>
<tr>
<td>modes</td>
<td>array: see schema</td>
<td>yes</td>
<td></td>
<td>Array of the currently active mode(s)</td>
</tr>
</tbody>
</table>

6.70.6 CRUDN behaviour

Table 146 Eco Mode CRUDN operations

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/EcomodeResURI</td>
<td>get</td>
<td>post</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

6.70.7 Referenced JSON schemas

6.70.7.1 oic.r.mode.json

```json
{

  "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.mode.json#",
  "$schema": "http://json-schema.org/draft-04/schema#",
  "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All rights reserved.",
  "title": "Mode",
  "definitions": {
    "oic.r.mode": {
      "type": "object",
      "properties": {
        "supportedModes": {
          "type": "array",
          "readOnly": true,
          "description": "Array of possible modes the device supports.",
          "items": {
            "type": "string"
          }
        }
      }
    },
    "modes": {
      "type": "array",
      "description": "Array of the currently active mode(s)",
      "items": {
        "type": "string"
      }
    }
  }
}
```

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6.71 Heating Zone

6.71.1 Introduction

This Resource provides information about the status of a heating zone of a Cook-Top. It describes the case of a Cook-Top whose zones can be activated dynamically (i.e. the device implements pot recognition). maxheatinglevel defines the max level for the heating zone heatinglevel is the current heating level of the zone. For each element the value range is from 0 (indication that the zone is not heating) to maxheatinglevel.

6.71.2 Example URI

/HeatingZoneResURI

6.71.3 Resource Type

The resource type (rt) is defined as: oic.r.heatingzone.

6.71.4 RAML Definition

```raml
#%RAML 0.8

title: OICHeatingZone
version: OCF1.0-20160722

traits:
- interface:
  
queryParameters:
  
if:
  
enum: ["oic.if.s", "oic.if.baseline"]

/HeatingZoneResURI:

description: |

This Resource provides information about the status of a heating zone of a Cook-Top. It describes the case of a Cook-Top whose zones can be activated dynamically (i.e. the device implements pot recognition). maxheatinglevel defines the max level for the heating zone heatinglevel is the current heating level of the zone. For each element the value range is from 0 (indication that the zone is not heating) to maxheatinglevel,

is: ['interface']

get:

description: |

Retrieves the current heating zone information.

responses:
  200:
    body: application/json:
      schema: |

    
    { "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.heatingzone.json#", "$schema": "http://json-schema.org/draft-04/schema#", "description": "Copyright (c) 2017 Open Connectivity Foundation, Inc. All rights reserved.", "title": "Heating Zone", "definitions": { "oic.r.heatingzone": { "type": "object", "properties": { "maxheatinglevel": { "type": "integer", "readOnly": true, "description": "Maximum heating level for the zone indicated." } } } } } ```
"heatinglevel": {  
  "type": "integer",  
  "readOnly": true,  
  "description": "Current heating level for the zone indicated."
}

example: |
{
  "rt": ["oic.r.heatingzone"],
  "id": "unique_example_id",
  "maxheatinglevel": 6,
  "heatinglevel": 0
}

### Property Definition

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>heatinglevel</td>
<td>integer</td>
<td>yes</td>
<td>Read Only</td>
<td>Current heating level for the zone indicated.</td>
</tr>
<tr>
<td>maxheatinglevel</td>
<td>integer</td>
<td>yes</td>
<td>Read Only</td>
<td>Maximum heating level for the zone indicated.</td>
</tr>
</tbody>
</table>

### CRUDN behaviour

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/HeatingZoneResURI</td>
<td></td>
<td>get</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Heating Zone Collection

#### Introduction

This Resource provides information about the status of the heating zones of a Cook-Top. It describes the case of a Cook-Top whose zones can be activated dynamically (i.e. the device implements pot recognition). The resource is a collection of instances of oic.r.heatingzone detailing the individual cooktop zones.

#### Example URI

/HeatingZoneResURI

#### Resource Type

The resource type (rt) is defined as: oic.r.heatingzonecollection.
traits:
- interface-ll:
  queryParameters:
    if:
      enum: ["oic.if.ll"]
- interface-baseline:
  queryParameters:
    if:
      enum: ["oic.if.baseline"]
- interface-all:
  queryParameters:
    if:
      enum: ["oic.if.ll", "oic.if.baseline"]

/HeatingZoneResURI?if=oic.if.baseline:

description: |
This Resource provides information about the status of the heating zones of a Cook-Top.
It describes the case of a Cook-Top whose zones can be activated dynamically (i.e.
the device implements pot recognition).
The resource is a collection of instances of oic.r.heatingzone detailing the individual cooktop
zones

is: ["interface-baseline"]

get:

description: |
Retrieves the current heating zone information.

responses:
200:
  body:
    application/json:
      schema: |
      |
      "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.heatingzonecollection.json#",
      "$schema": "http://json-schema.org/draft-04/schema#",
      "description": "Copyright (c) 2017,2018 Open Connectivity Foundation, Inc. All
      rights reserved.",
      "title": "Heating Zone Collection",
      "definitions": {
        "oic.r.heatingzonecollection": {
          "type": "object",
          "properties": {
            "rt": {
              "type": "array",
              "minItems": 2,
              "maxItems": 2,
              "uniqueItems": true,
              "items": {
                "anyOf": [
                  {
                    "type": "string",
                  
```
```json
"enum": ["oic.r.heatingzone","oic.r.value.conditional"]
},
{
  "type": "string",
  "enum": ["oic.r.heatingzone"]
}
}
}
}
}
]
}
}
]

example: |

```

6.72.5 Property Definition

Table 149 Heating Zone Collection Property Definitions

<table>
<thead>
<tr>
<th>Property name (links)</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>rt</td>
<td>array: see schema</td>
<td>see</td>
<td></td>
<td>Resource Type of the Resource</td>
</tr>
<tr>
<td>rts</td>
<td>array: see schema</td>
<td>see</td>
<td></td>
<td>A set of simple or individual OIC Links.</td>
</tr>
<tr>
<td>links</td>
<td>array: see schema</td>
<td>see</td>
<td></td>
<td>The Device ID formatted according to IETF RFC 4122.</td>
</tr>
<tr>
<td>title (links)</td>
<td>string</td>
<td></td>
<td></td>
<td>A title for the link relation. Can be used by the UI to provide a context.</td>
</tr>
<tr>
<td>eps (links)</td>
<td>array: see schema</td>
<td>see</td>
<td></td>
<td>the Endpoint information of</td>
</tr>
</tbody>
</table>
```
<table>
<thead>
<tr>
<th>Parameter</th>
<th>Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ins (links)</td>
<td>integer</td>
<td>The instance identifier for this web link in an array of web links used in collections</td>
</tr>
<tr>
<td>p (links)</td>
<td>object: see schema</td>
<td>Specifies the framework policies on the Resource referenced by the target URI</td>
</tr>
<tr>
<td>href (links)</td>
<td>string</td>
<td>yes</td>
</tr>
<tr>
<td>rel (links)</td>
<td>multiple types: see schema</td>
<td>The relation of the target URI referenced by the link to the context URI</td>
</tr>
<tr>
<td>type (links)</td>
<td>array: see schema</td>
<td>A hint at the representation of the resource referenced by the target URI. This represents the media types that are used for both accepting and emitting.</td>
</tr>
<tr>
<td>anchor (links)</td>
<td>string</td>
<td>This is used to override the context URI e.g. override the URI of the containing collection.</td>
</tr>
<tr>
<td>if (links)</td>
<td>array: see schema</td>
<td>yes</td>
</tr>
</tbody>
</table>

### 6.72.6 CRUDN behaviour

#### Table 150 Heating Zone Collection CRUDN operations

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/HeatingZoneResURI</td>
<td>Create</td>
<td>Read</td>
<td>Update</td>
<td>Delete</td>
<td>Notify</td>
</tr>
</tbody>
</table>

### 6.72.7 Referenced JSON schemas

#### 6.72.7.1 oic.collection-schema.json

```json
{
    "Schema": "http://json-schema.org/draft-04/schema#",
}
"description": "Copyright (c) 2016,2018 Open Connectivity Foundation, Inc. All rights reserved.",
"id": "http://www.openconnectivity.org/ocf-apis/core/schemas/oic.collection-schema.json#",
"title": "Collection",
"definitions": {
  "oic.oic-link": {
    "type": "object",
    "properties": {
      "href": {
        "type": "string",
        "maxLength": 256,
        "description": "This is the target URI, it can be specified as a Relative Reference or fully-qualified URI.",
        "format": "uri"
      },
      "rel": {
        "oneOf": [
          {
            "type": "array",
            "items": {
              "type": "string",
              "maxLength": 64
            }
          },
          {
            "type": "string",
            "maxLength": 64,
            "default": "hosts"
          }
        ],
        "description": "The relation of the target URI referenced by the link to the context URI"
      },
      "rt": {
        "type": "array",
        "items": {
          "type": "string",
          "maxLength": 64
        }
      },
      "if": {
        "type": "array",
        "items": {
          "type": "string",
          "enum": ["oic.if.baseline", "oic.if.ll", "oic.if.b", "oic.if.rw", "oic.if.r",
                    "oic.if.a", "oic.if.s"]
        }
      },
      "di": {
        "description": "The Device ID formatted according to IETF RFC 4122.",
        "type": "string",
        "pattern": "^[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{12}$",
        "minItems": 1,
        "description": "The interface set supported by this resource"
      }
    },
    "required": ["href"]
  }
},
"rel": {"oneOf": [
  {
    "type": "array",
    "items": {"type": "string",
      "maxLength": 64
    },
    "minItems": 1,
    "description": "Resource Type of the Resource"
  },
  {
    "type": "array",
    "items": {"type": "string",
      "maxLength": 64
    },
    "minItems": 1,
    "description": "The interface set supported by this resource"
  }
],
"if": {
  "type": "array",
  "items": {"type": "string",
            "enum": ["oic.if.baseline", "oic.if.ll", "oic.if.b", "oic.if.rw", "oic.if.r",
                     "oic.if.a", "oic.if.s"]
          },
  "description": "The interface set supported by this resource"
},
"di": {
  "description": "The Device ID formatted according to IETF RFC 4122.",
  "type": "string",
  "pattern": "^[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{12}$",
  "minItems": 1,
  "description": "The interface set supported by this resource"
}
}
"title": {
  "type": "string",
  "maxLength": 64,
  "description": "A title for the link relation. Can be used by the UI to provide a context."
},
"anchor": {
  "type": "string",
  "maxLength": 256,
  "description": "This is used to override the context URI e.g. override the URI of the containing collection.",
  "format": "uri"
},
"ins": {
  "type": "integer",
  "description": "The instance identifier for this web link in an array of web links - used in collections"
},
"type": {
  "type": "array",
  "description": "A hint at the representation of the resource referenced by the target URI. This represents the media types that are used for both accepting and emitting.",
  "items": {
    "type": "string",
    "maxLength": 64
  },
  "minItems": 1,
  "default": "application/cbor"
},
"eps": {
  "type": "array",
  "description": "The Endpoint information of the target Resource",
  "items": {
    "type": "object",
    "properties": {
      "ep": {
        "type": "string",
        "format": "uri",
        "description": "Transport Protocol Suite + Endpoint Locator"
      },
      "pri": {
        "type": "integer",
        "minimum": 1,
        "description": "The priority among multiple Endpoints"
      }
    }
  }
},
"required": [ "href", "rt", "if" ]
},
"oic.collection.links.arrayoflinks": {
  "properties": {
    "links": {
      "description": "A set of simple or individual OIC Links.",
      "type": "array",
      "items": {
        "type": "object",
        "properties": {
          "href": {
            "type": "string",
            "maxLength": 256,
            "description": "This is the target URI, it can be specified as a Relative Reference or fully-qualified URI.",
            "format": "uri"
          },
          "rel": {
            "type": "array",
            "oneOf": [
              { "type": "array" }
            ]
          }
        }
      }
    }
  }
},
"items": [
  "type": "string",
  "maxLength": 64
],
"minItems": 1,
"default": ["hosts"]
},
"rt": {
  "type": "array",
  "items": {
    "type": "string",
    "maxLength": 64
  },
  "minItems": 1,
  "description": "Resource Type of the Resource"
},
"if": {
  "type": "array",
  "items": {
    "type": "string",
    "enum": ["oic.if.baseline", "oic.if.ll", "oic.if.b", "oic.if.rw", "oic.if.r",
              "oic.if.a", "oic.if.s"]
  },
  "minItems": 1,
  "description": "The interface set supported by this resource"
},
"di": {
  "description": "The Device ID formatted according to IETF RFC 4122.",
  "type": "string",
  "pattern": "^([a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{12})$"
},
"p": {
  "description": "Specifies the framework policies on the Resource referenced by the target URI",
  "type": "object",
  "properties": {
    "bm": {
      "description": "Specifies the framework policies on the Resource referenced by the target URI for e.g. observable and discoverable",
      "type": "integer"
    }
  },
  "required": ["bm"]
},
"title": {
  "type": "string",
  "maxLength": 64,
  "description": "A title for the link relation. Can be used by the UI to provide a context."
},
"anchor": {
  "type": "string",
  "maxLength": 256,
  "description": "This is used to override the context URI e.g. override the URI of the containing collection."
},
"ins": {
  "type": "integer",
  "description": "The instance identifier for this web link in an array of web links - used in collections"
"type": {  
  "type": "array",  
  "description": "A hint at the representation of the resource referenced by the target URI. This represents the media types that are used for both accepting and emitting.",  
  "items": {  
    "type": "string",  
    "maxLength": 64  
  },  
  "minItems": 1,  
  "default": "application/cbor"
},

"eps": {  
  "type": "array",  
  "description": "the Endpoint information of the target Resource",  
  "items": {  
    "type": "object",  
    "properties": {  
      "ep": {  
        "type": "string",  
        "format": "uri",  
        "description": "Transport Protocol Suite + Endpoint Locator"
      },  
      "pri": {  
        "type": "integer",  
        "minimum": 1,  
        "description": "The priority among multiple Endpoints"
      }  
    }  
  }  
},

"required": [ "href", "rt", "if" ]
}

"oic.core": {  
  "type": "object",  
  "properties": {  
    "rt": {  
      "type": "array",  
      "items": {  
        "type": "string",  
        "maxLength": 64  
      },  
      "minItems": 1,  
      "readOnly": true,  
      "description": "Resource Type of the Resource"
    }  
  }  
}

"uuid": {  
  "description": "Format pattern according to IETF RFC 4122.",  
  "type": "string",  
  "pattern": "^[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{12}$"  
},

"oic.collection.links": {  
  "properties": {  
    "links": {  
      "description": "A set of simple or individual OIC Links.",  
      "type": "array",  
      "items": {  
        "$ref": "#/definitions/oic.oic-link"
      }  
    }  
  }  
}

"oic.collection.properties": {  
  "type": "object",  
  "description": "A collection is a set of links along with additional properties to describe"
the collection itself",
"properties": {
  "$ref": "#/definitions/oic.core/properties/rt",
  "description": "The list of allowable resource types (for Target and anchors) in links included in the collection"
}
}

6.73 Selectable Levels

6.73.1 Introduction

This Resource provides a set of device defined 'levels' that can be selected for an operation. For example where a humidifier has a discrete set that model different humidity levels that can be set. availablelevels is an array of the levels that can be selected, these can be a number or an integer. targetlevel is the level that has currently been selected and is written to in order to select a new level. When retrieved the targetlevel provides the actual value that has been selected.

6.73.2 Example URI

/SelectableLevelsResURI

6.73.3 Resource Type

The resource type (rt) is defined as: oic.r.selectablelevels.

6.73.4 RAML Definition

```
#%RAML 0.8

title: OICSelectableLevels
version: v1.1.0-20160519

traits: - interface:
  queryParameters:
    if:
      enum: ["oic.if.a", "oic.if.baseline"]

/SelectableLevelsResURI: 
  description: |
    This Resource provides a set of device defined 'levels' that can be selected for an operation. For example where a humidifier has a discrete set that model different humidity levels that can be set. availablelevels is an array of the levels that can be selected, these can be a number or an integer. targetlevel is the level that has currently been selected and is written to in order to select a new level. When retrieved the targetlevel provides the actual value that has been selected.

  is: ['interface']

get: 
  description: |
    Retrieves the current selectable levels.

responses :
200:

  body:
  application/json:
   schema: |
     |
     | "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.selectablelevels.json#",
     | "$schema": "http://json-schema.org/draft-04/schema#",
     | "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All rights reserved.",
     | "title": "SelectableLevels",
     | "definitions": { "oic.r.selectablelevels": { "type": "object", "properties": { "availablelevels": { "type": "array", "description": "Set of levels from which one can be selected", "readOnly": true, "items": [ { "anyOf": [ { "type": "integer"}, { "type": "number"} ] } } ], "targetlevel": { "anyOf": [ { "type": "integer"}, { "type": "number"} ] }, "description": "The target level from the available selectable set" } } }, "type": "object", "allOf": [ { "$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"}, { "$ref": "/definitions/oic.r.selectablelevels"} ], "required": ["availablelevels","targetlevel"]

example: |

  |
  | { "rt": ["oic.r.selectablelevels"], "id": "unique_example_id", "availablelevels":[0,2,4,6,8], "targetlevel": 2 }

post:

description: |

  Sets the current level from the set that is selectable

body:
application/json:

  schema: |
    |
    | "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.selectablelevels.json#",
    | "$schema": "http://json-schema.org/draft-04/schema#",
    | "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All rights reserved.",
    | "title": "SelectableLevels",
"definitions": {
  "oic.r.selectablelevels": {
    "type": "object",
    "properties": {
      "targetlevel": {
        "type": ["integer","number"],
        "description": "The target level from the available selectable set"
      }
    }
  }
},
"type": "object",
"allOf": [
  {"$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},
  {"$ref": "/#definitions/oic.r.selectablelevels"}
],
"required": ["targetlevel"]
},
example: |
{
  "targetlevel": 4
}

responses:
200:
  body:
    application/json:
      schema: |
        {
          "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.selectablelevels.json#",
          "$schema": "http://json-schema.org/draft-04/schema#",
          "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All rights reserved."
        },
        "title": "SelectableLevels",
        "definitions": {
          "oic.r.selectablelevels": {
            "type": "object",
            "properties": {
              "targetlevel": {
                "type": ["integer","number"],
                "description": "The target level from the available selectable set"
              }
            }
          }
        }
        example: |
        {
          "targetlevel": 4
        }
        403:
        description: |
        Generated by a Server when an attempt is made to update to a targetlevel that is not in the set of availablelevels
body:
  application/json:
    schema: |
    {
      "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.selectablelevels.json#",
      "$schema": "http://json-schema.org/draft-04/schema#",
      "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All rights reserved.",
      "title": "SelectableLevels",
      "definitions": {
        "oic.r.selectablelevels": {
          "type": "object",
          "properties": {
            "availablelevels": {
              "type": "array",
              "description": "Set of levels from which one can be selected",
              "readOnly": true,
              "items": {
                "anyOf": [
                  {"type": "integer"},
                  {"type": "number"}
                ]
              }
            }
          }
        }
      },
      "targetlevel": {
        "anyOf": [
          {"type": "integer"},
          {"type": "number"}
        ],
        "description": "The target level from the available selectable set"
      }
    }
    example: |
    {
      "id": "unique_example_id",
      "availablelevels": [0,2,4,6,8],
      "targetlevel": 2
    }

6.73.5 Property Definition

Table 151 Selectable Levels Property Definitions

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>targetlevel</td>
<td>multiple types: see schema</td>
<td>yes</td>
<td>Access mode</td>
<td>The target level from the available selectable set</td>
</tr>
<tr>
<td>availablelevels</td>
<td>array: see schema</td>
<td>yes</td>
<td>Read Only</td>
<td>Set of levels from which one can be selected</td>
</tr>
</tbody>
</table>
### 6.73.6 CRUDN behaviour

#### Table 152 Selectable Levels CRUDN operations

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/SelectableLevelsResURI</td>
<td>get</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### 6.74 Value Conditional

#### 6.74.1 Introduction

This resource specifies conditions that can be applied to an observed value in any Resource. These conditions are applied by the server exposing the Resource to any generated notifications because of subscriptions to the Resource. A unicast RETRIEVE to the Resource will receive the most recent value; which may not be the most recent notified value. A server exposes this Resource in association with the Resource conveying the observed value. This is done by means of a new Resource instance with an RT of ["oic.r.<thing being observed>", "oic.r.value.conditional"], e.g ["oic.r.temperature", "oic.r.value.conditional"]. Please see Section 5.7.1 of the published OCF Resource Type Specification for more details. The threshold is the amount by which the thing being observed must change before a notification is sent. The minnotifyperiod is the minimum time in ms (milliseconds) that must elapse before a notification is sent. If the maxnotifyperiod (time in ms (milliseconds)) elapses then a notification must be sent. The maxnotifyperiod timer resets each time a notification is sent. A value of '0' for any of threshold, minnotifyperiod or maxnotifyperiod means that the capability is supported but not active.

#### 6.74.2 Example URI

/ValueConditionalResURI

#### 6.74.3 Resource Type

The resource type (rt) is defined as: oic.r.value.conditional.

#### 6.74.4 RAML Definition

```yaml
#%RAML 0.8

title: OICValueConditional
version: v1.1.0-20161031
traits:
  - interface:
        queryParameters:
          if:
            enum: ["oic.if.rw", "oic.if.baseline"]

=ValueConditionalResURI:

description: |
  This resource specifies conditions that can be applied to an observed value in any Resource.
  These conditions are applied by the server exposing the Resource to any generated notifications because of subscriptions to the Resource.
  A unicast RETRIEVE to the Resource will receive the most recent value; which may not be the most recent notified value.
  A server exposes this Resource in association with the Resource conveying the observed value.
  This is done by means of a new Resource instance with an RT of ["oic.r.<thing being observed>", "oic.r.value.conditional"], e.g ["oic.r.temperature", "oic.r.value.conditional"]
  Please see Section 5.7.1 of the published OCF Resource Type Specification for more details.
  The threshold is the amount by which the thing being observed must change before a notification is sent.
  The minnotifyperiod is the minimum time in ms (milliseconds) that must elapse before a notification is sent.
  If the maxnotifyperiod (time in ms (milliseconds)) elapses then a notification must be sent.
  The maxnotifyperiod timer resets each time a notification is sent.
  A value of '0' for any of threshold, minnotifyperiod or maxnotifyperiod means that the
```
capability is supported but not active.

is : ['interface']

get:
  responses :
    200:
      body:
        application/json:
          schema: |

        "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.value.conditional.json#",
        "$schema": "http://json-schema.org/draft-04/schema#",
        "description": "Copyright (c) 2017 Open Connectivity Foundation, Inc. All rights reserved.",
        "title": "Value Conditional",
        "definitions": {
          "oic.r.value.conditional": {
            "type": "object",
            "anyOf": [
              { "required": ["threshold"]},
              { "required": ["minnotifyperiod"]},
              { "required": ["maxnotifyperiod"]}
            ],
            "properties": {
              "threshold": { "type": "number", "minimum": 0,
                "description": "Amount by which the measured value must change before a notification is sent."},
              "minnotifyperiod": { "type": "integer", "minimum": 0,
                "description": "Minimum elapsed time in ms before a notification is sent."},
              "maxnotifyperiod": { "type": "integer", "minimum": 0,
                "description": "Maximum elapsed time in ms before a notification must be sent."}
            }
          }
        },

        example: |

        { "rt": ["oic.r.value.conditional"],
          "id": "unique_example_id",
          "threshold": 2,
          "minnotifyperiod": 2000,
          "maxnotifyperiod": 5000 }

post:
  description: |
  body:
    application/json:
```json
schema: valueconditional
example: |
  {
    "threshold": 2,
    "minnotifyperiod": 1500
  }

responses:
  200:
    body:
      application/json:
        schema:
        {
          "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.value.conditional.json#",
          "$schema": "http://json-schema.org/draft-04/schema#",
          "description": "Copyright (c) 2017 Open Connectivity Foundation, Inc. All rights reserved.",
          "title": "Value Conditional",
          "definitions": {
            "oic.r.value.conditional": {
              "type": "object",
              "anyOf": [
                {"required": ["threshold"]},
                {"required": ["minnotifyperiod"]},
                {"required": ["maxnotifyperiod"]}
              ],
              "properties": {
                "threshold": {
                  "type": "number",
                  "minimum": 0,
                  "description": "Amount by which the measured value must change before a notification is sent."
                },
                "minnotifyperiod": {
                  "type": "integer",
                  "minimum": 0,
                  "description": "Minimum elapsed time in ms before a notification is sent."
                },
                "maxnotifyperiod": {
                  "type": "integer",
                  "minimum": 0,
                  "description": "Maximum elapsed time in ms before a notification must be sent."
                }
              }
            }
          },
          "type": "object",
          "allOf": [
            {"$ref": "oic.core.json#/definitions/oic.core"},
            {"$ref": "#/definitions/oic.r.value.conditional"}
          ]
        }
        example: |
        {
          "threshold": 2,
          "minnotifyperiod": 1500
        }
```

### 6.74.5 Property Definition

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
</table>

Copyright Open Connectivity Foundation, Inc. © 2016-18. All rights Reserved
<table>
<thead>
<tr>
<th>Field</th>
<th>Type</th>
<th>Required</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>threshold</td>
<td>number</td>
<td>yes</td>
<td>Amount by which the measured value must change before a notification is sent.</td>
</tr>
<tr>
<td>maxnotifyperiod</td>
<td>integer</td>
<td>yes</td>
<td>Maximum elapsed time in ms before a notification must be sent.</td>
</tr>
<tr>
<td>minnotifyperiod</td>
<td>integer</td>
<td>yes</td>
<td>Minimum elapsed time in ms before a notification is sent.</td>
</tr>
</tbody>
</table>

6.74.6 CRUDN behaviour

Table 154 Value Conditional CRUDN operations

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/ValueConditionalResURI</td>
<td>get</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

6.75 Colour Space Coordinates

6.75.1 Introduction

This resource describes the colour using colour space co-ordinates. csc is the colour space coordinates in CIE colour space. The first item in the array is the X coordinate. The second item in the array is the Y coordinate. If precision (from oic.r.baseresource) is provided it applies to both the X and Y coordinates.

6.75.2 Example URI

/example/ColourSpaceCoordinatesResURI

6.75.3 Resource Type

The resource type (rt) is defined as: oic.r.colour.csc.

6.75.4 RAML Definition

```raml
#%RAML 0.8

title: OCFColourCSC
version: OCFv1.1.0-2017

traits:
  - interface-a :
    queryParameters:
      if:
        enum: ["oic.if.a"]
  - interface-all :
    queryParameters:
      if:
        enum: ["oic.if.a", "oic.if.baseline"]

/example/ColourSpaceCoordinatesResURI:

description: |
  This resource describes the colour using colour space co-ordinates.
  csc is the colour space coordinates in CIE colour space.
  The first item in the array is the X coordinate.
  The second item in the array is the Y coordinate.
```

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If precision (from oic.r.baseresource) is provided it applies to both the X and Y coordinates.

get:

description: |
  Provides the colour using colour space coordinates.

is : ['interface-all']

responses:
  200:
    body:
      application/json:
        schema: |
          
          |"id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.colour.csc.json#",
          |
          |
          |"$schema": "http://json-schema.org/draft-04/schema#",
          |
          |
          |"description": "Copyright (c) 2017 Open Connectivity Foundation, Inc. All rights
          |
          |
          |reserved.",
          |
          |
          |"title": "Colour Space Coordinates",
          |
          |
          |"definitions": {
          |
          |
          |  "oic.r.colour.csc": {
          |
          |
          |    "type": "object",
          |
          |
          |    "properties": {
          |
          |
          |      "csc": {
          |
          |
          |        "type": "array",
          |
          |
          |        "description": "X and Y coordinates of the colour in CIE colour space",
          |
          |
          |        "minItems": 2,
          |
          |
          |        "maxItems": 2,
          |
          |
          |        "items": {
          |
          |
          |          "type": "number",
          |
          |
          |          "minimum": 0,
          |
          |
          |          "maximum": 1
          |
          |
          |      }
          |
          |
          |    }
          |
          |
          |  }
          |
          |
          |
          |},
          |
          |
          |"type": "object",
          |
          |
          |"allOf": [
          |
          |
          |  
          |
          |
          |  "$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},
          |
          |
          |  "$ref": "/#definitions/oic.r.colour.csc"
          |
          |
          |
          |],
          |
          |
          |
          |"required": [ "csc" ]
          |
          |
          |
          |}
          |
          |
          |
          |example: |
          |
          |
          |  
          |
          |
          |  |
          |
          |{ "rt": ["oic.r.colour.csc"],
          |
          |
          |  "id": "unique_example_id",
          |
          |
          |  "csc": [0.41,0.51]
          |
          |
          |}
          |
          |
          |
          |post:
          |
          |
          |description: |
          |
          |  Sets current colour space coordinates
          |
          |
          |is : ['interface-a']
          |
          |
          |body:
          |
          |
          |  application/json:
          |
          |
          |    schema: |
"id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.colour.csc.json#",
"$schema": "http://json-schema.org/draft-04/schema#",
"description": "Copyright (c) 2017 Open Connectivity Foundation, Inc. All rights reserved.",
"title": "Colour Space Coordinates",
"definitions": {
  "oic.r.colour.csc": {
    "type": "object",
    "properties": {
      "csc": {
        "type": "array",
        "description": "X and Y coordinates of the colour in CIE colour space",
        "minItems": 2,
        "maxItems": 2,
        "items": {
          "type": "number",
          "minimum": 0,
          "maximum": 1
        }
      }
    }
  }
},
"type": "object",
"allOf": [
  {"$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},
  {"$ref": "#/definitions/oic.r.colour.csc"}
],
"required": [ "csc" ]
}

example: |
|
  {  
    "id": "unique_example_id",
    "csc": [0.40, 0.70]
  }

responses :
  200:
    body:
      application/json:
        schema: |
|
  

"type": "object",
"allOf": [
  {
    "$ref": "oic.baseResource.json#/definitions/oic.r.baseresource",
  },
  {
    "$ref": "#/definitions/oic.r.colour.csc"
  }
],
"required": [ "csc" ]
}

example: |
{
  "id": "unique_example_id",
  "csc": [0.40,0.70]
}

6.75 Property Definition
Table 155 Colour Space Coordinates Property Definitions

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>csc</td>
<td>array: see schema</td>
<td>yes</td>
<td>X and Y coordinates of the colour in CIE colour space</td>
<td></td>
</tr>
</tbody>
</table>

6.75.6 CRUDN behaviour

Table 156 Colour Space Coordinates CRUDN operations

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/example/ColourSpaceCoordinatesResURI</td>
<td>get</td>
<td>post</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

6.76 Colour Temperature

6.76.1 Introduction

This resource describes the colour using colour temperature conventions. ct is the Mired colour temperature. The equivalent value in Kelvin is obtained by Colour Temp(K) = 1,000,000/Colour Temp(Mired)

6.76.2 Example URI

/example/ColourTemperatureResURI

6.76.3 Resource Type

The resource type (rt) is defined as: oic.r.colour.colourtemperature.

6.76.4 RAML Definition

```yaml
#%RAML 0.8
title: OCFColourTemperature
version: OCFV1.0-2017
traits:
  - interface-a :
    queryParameters:
      if:
        enum: ["oic.if.a"]
  - interface-all :
    queryParameters:
      if:
        enum: ["oic.if.a", "oic.if.baseline"]
```
This resource describes the colour using colour temperature conventions. ct is the Mired colour temperature. The equivalent value in Kelvin is obtained by Colour Temp(K) = 1,000,000/Colour Temp(Mired)

get:

Provides the colour using colour temperature conventions.

is : ['interface-all']

responses :

200:
	body:
	application/json:
		schema: |
		|
		  "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.colour.colourtemperature.json#",
		  "$schema": "http://json-schema.org/draft-04/schema#",
		  "id": "unique_example_id",
		  "ct": 457

post:

Sets current colour temperature value

is : ['interface-a']

body:
	number/json:
	schema: |
	schema:
	  "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.colour.colourtemperature.json#",
	  "$schema": "http://json-schema.org/draft-04/schema#",
"definition": { "oic.r.colour.colourtemperature": { "type": "object", "properties": { "ct": { "type": "integer", "description": "Mired colour temperature", "minimum": 0 } } } }, "type": "object", "allOf": [ {"$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"}, {"$ref": "#/definitions/oic.r.colour.colourtemperature"} ], "required": [ "ct" ] } example: { "id": "unique_example_id", "ct": 457 } responses: 200: body: application/json: schema: { "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.colour.colourtemperature.json#", "$schema": "http://json-schema.org/draft-04/schema#", "description": "Copyright (c) 2017 Open Connectivity Foundation, Inc. All rights reserved.", "title": "Colour Temperature", "definitions": { "oic.r.colour.colourtemperature": { "type": "object", "properties": { "ct": { "type": "integer", "description": "Mired colour temperature", "minimum": 0 } } } }, "type": "object", "allOf": [ {"$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"}, {"$ref": "#/definitions/oic.r.colour.colourtemperature"} ], "required": [ "ct" ] } } example: { "id": "unique_example_id", "ct": 467 }
### 6.76.5 Property Definition

#### Table 157 Colour Temperature Property Definitions

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ct</td>
<td>integer</td>
<td>yes</td>
<td></td>
<td>Mired colour temperature</td>
</tr>
</tbody>
</table>

### 6.76.6 CRUDN behaviour

#### Table 158 Colour Temperature CRUDN operations

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/example/ColourTemperatureResURI</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### 6.77 Colour Hue and Saturation

#### 6.77.1 Introduction

This resource describes the colour using hue-saturation conventions. hue is the hue angle, it is a number value as defined by the CIECAM02 model definition (see reference [CIE CIE159:2004]). A Device that does not support fractional hue angles can provide integer values. If precision (from oic.r.baseresource) is provided it applies to the hue angle. saturation is an integer value as defined by the CIECAM02 model definition (see reference [CIE CIE159:2004]). saturation can be converted to a percentage by saturation/maximumsaturation X 100; where maximumsaturation is 32767 if the Property itself is not present. maximumsaturation is the upper bound on the saturation supported by the Device. If not present the maximum value for saturation is 32767.

#### 6.77.2 Example URI

/example/ColourHueSaturationResURI

#### 6.77.3 Resource Type

The resource type (rt) is defined as: oic.r.colour.hs.

#### 6.77.4 RAML Definition

```raml
#%RAML 0.8

title: OCFColourHueSaturation
version: v1.0-2017

traits:
  - interface-a :
    queryParameters:
      if:
        enum: ["oic.if.a"]

  - interface-all :
    queryParameters:
      if:
        enum: ["oic.if.a", "oic.if.baseline"]

/example/ColourHueSaturationResURI:

description: |
  This resource describes the colour using hue-saturation conventions.
  hue is the hue angle, it is a number value as defined by the CIECAM02 model definition (see reference [CIE CIE159:2004]).
  A Device that does not support fractional hue angles can provide integer values.
  saturation is an integer value as defined by the CIECAM02 model definition (see reference [CIE CIE159:2004]).
  saturation can be converted to a percentage by saturation/maximumsaturation X 100; where maximumsaturation is 32767 if the Property itself is not present.
```

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maximumsaturation is the upper bound on the saturation supported by the Device.
If not present the maximum value for saturation is 32767.

get:

description: |

Provides the colour using hue and saturation conventions.

is: ['interface-all']
responses:
200:

type: application/json:

schema: |

{ "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.colour.hs.json#",
"$schema": "http://json-schema.org/draft-04/schema#",
"description": "Copyright (c) 2017 Open Connectivity Foundation, Inc. All rights
reserved.",
"title": "Colour Hue and Saturation",
"definitions": { "oic.r.colour.hs": { "type": "object",
"properties": { "hue": { "type": "number",
"description": "Hue angle as defined by the CIECAM02 model definition",
"minimum": 0.0,
"maximum": 360.0 }, "saturation": { "type": "integer",
"description": "Saturation as defined by the CIECAM02 model definition",
"minimum": 0,
"maximum": 32767 }, "maximumsaturation": { "type": "integer",
"description": "Maximum supported value of Saturation for this Device",
"readOnly": true,
"minimum": 0,
"maximum": 32767 } }, "type": "object",
"allOf": [ { "$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"}, { "$ref": "#/definitions/oic.r.colour.hs"} ],
"required": [ "hue", "saturation" ] }
}

example: |

{ "rt": ["oic.r.colour.hs"],
"id": "unique_example_id",
"hue": 300.0,
"saturation": 212,
"maximumsaturation": 1000 }

post:
Sets current colour hue and saturation values.
At least one of hue or saturation shall be provided in the payload.

is : ['interface-a']

body:
application/json:
schema: |
{
  "id": "http://openinterconnect/iotdatamodels/schemas/oic.r.colour.hs.json#",
  "$schema": "http://json-schema.org/draft-04/schema#",
  "description": "Copyright (c) 2017 Open Connectivity Foundation, Inc. All rights reserved.",
  "title": "Colour Hue and Saturation",
  "definitions": {
    "oic.r.colour.hs": {
      "type": "object",
      "properties": {
        "hue": {
          "type": "number",
          "description": "Hue angle as defined by the CIECAM02 model definition",
          "minimum": 0.0,
          "maximum": 360.0
        },
        "saturation": {
          "type": "integer",
          "description": "Saturation as defined by the CIECAM02 model definition",
          "minimum": 0,
          "maximum": 32767
        }
      },
      "maximumsaturation": {
        "type": "integer",
        "description": "Maximum supported value of Saturation for this Device",
        "readOnly": true,
        "minimum": 0,
        "maximum": 32767
      }
    }
  },
  "type": "object",
  "allOf": [
    {
      "$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"
    },
    {
      "$ref": "#/definitions/oic.r.colour.hs"
    }
  ],
  "required": [ "hue", "saturation" ]
}

example: |
{
  "id": "unique_example_id",
  "hue": 300.0,
  "saturation": 212
}

responses:
200:

  body:
application/json:
schema: |
{
  "id": "http://openinterconnect/iotdatamodels/schemas/oic.r.colour.hs.json#",
  "$schema": "http://json-schema.org/draft-04/schema#",
  "description": "Copyright (c) 2017 Open Connectivity Foundation, Inc. All rights reserved."}
6.77.5 Property Definition

Table 159 Colour Hue and Saturation Property Definitions

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>hue</td>
<td>number</td>
<td>yes</td>
<td></td>
<td>Hue angle as defined by the CIECAM02 model definition</td>
</tr>
<tr>
<td>saturation</td>
<td>integer</td>
<td>yes</td>
<td></td>
<td>Saturation as defined by the CIECAM02 model definition</td>
</tr>
<tr>
<td>maximumsaturation</td>
<td>integer</td>
<td></td>
<td>Read Only</td>
<td>Maximum supported value of Saturation for this Device</td>
</tr>
</tbody>
</table>
Table 160 Colour Hue and Saturation CRUDN operations

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/example/ColourHueSaturationResURI</td>
<td>get</td>
<td>post</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

6.78 Battery Material

6.78.1 Introduction
This resource describes the battery material represented as an enumerated set of strings.

6.78.2 Example URI
/BatteryMaterialResURI

6.78.3 Resource Type
The resource type (rt) is defined as: oic.r.batterymaterial.

6.78.4 RAML Definition

```yaml
#%RAML 0.8
title: BatteryMaterial
version: v1.1.0-20170815
traits:
  - interface:
    queryParameters:
      if:
        enum: ["oic.if.s", "oic.if.baseline"]
/BatteryMaterialResURI:
  description: |
    This resource describes the battery material represented as an enumerated set of strings.
  is: ['interface']
get:
  description: |
    Retrieves the battery material.
  responses:
    200:
      body:
        application/json:
          schema: |
        "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.batterymaterial.json#",
        "$schema": "http://json-schema.org/draft-04/schema#",
        "description": "Copyright (c) 2017 Open Connectivity Foundation, Inc. All rights reserved.",
        "title": "BatteryMaterial",
        "definitions": |
        "oic.r.batterymaterial": |
        "type": "object",
        "properties": |
        "material": |
        "type": "string",
        "enum": |
        "Alkaline",
        "Aluminium Air",
        "Aluminium Ion",
        "Atomic Betavoltaics",
```

6.77.6 CRUDN behaviour
"Atomic Optoelectric Nuclear",
"Atomic Nuclear",
"Bunsen Cell",
"Chromic Acid Cell",
"Foggendorff Cell",
"Clark Cell",
"Daniell Cell",
"Dry Cell",
"Earth",
"Flow",
"Flow Vanadium Redox",
"Flow Zinc Bromine",
"Flow Zinc Cerium",
"Frog",
"Fuel",
"Galvanic Cell",
"Glass",
"Grove Cell",
"Lead Acid",
"Lead Acid Deep Cycle",
"Lead Acid VRLA",
"Lead Acid AGM",
"Lead Acid Gel",
"Leclanche Cell",
"Lemon Potato",
"Lithium",
"Lithium Air",
"Lithium Ion",
"Lithium Ion Cobalt Oxide (ICR)",
"Lithium Ion Manganese Oxide (IMR)",
"Lithium Ion Polymer",
"Lithium Iron Phosphate",
"Lithium Sulfur",
"Lithium Titanate",
"Lithium Ion Thin Film",
"Magnesium",
"Magnesium Ion",
"Mercury",
"Molten Salt",
"Nickel Cadmium",
"Nickel Cadmium Vented Cell",
"Nickel Hydrogen",
"Nickel Iron",
"Nickel Metal Hydride",
"Nickel Metal Hydride Low Self-Discharge",
"Nickel Oxyhydroxide",
"Nickel Oxyride",
"Nickel Zinc",
"Organic Radical",
"Paper",
"Polymer Based",
"Polysulfide Bromide",
"Potassium Ion",
"Pulvermachers Chain",
"Silicon Air",
"Silver Calcium",
"Silver Oxide",
"Silver Zinc",
"Sodium Ion",
"Sodium Sulfur",
"Solid State",
"Sugar",
"Super Iron",
"UltraBattery",
"Voltaic Pile",
"Voltaic Pile Penny",
"Voltaic Pile Trough",
"Water Activated",
"Weston Cell",
"Zinc Air",
"Zinc Carbon"
"Zinc Chloride",
"Zinc Ion",
"Unknown",
},
"description": "Battery construction material (type).",
"readOnly": true
}
}

example: |
{
"rt": ["oic.r.batterymaterial"],
"id": "unique_example_id",
"material": "Alkaline"
}

6.78.5 Property Definition

Table 161 Battery Material Property Definitions

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>material</td>
<td>string</td>
<td>yes</td>
<td>Read Only</td>
<td>Battery construction material (type).</td>
</tr>
</tbody>
</table>

6.78.6 CRUDN behaviour

Table 162 Battery Material CRUDN operations

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/BatteryMaterialResURI</td>
<td></td>
<td>get</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

6.79 Brewing

6.79.1 Introduction

This resource describes the attributes associated with brewing. This resource is used for configuration only. Operation is handled independently of this resource. The amount requested is in ml. The strength of a brewed drink is an integer, the range of which may be enforced by the presence of a strengthrange Property.

6.79.2 Example URI

/BrewingResURI

6.79.3 Resource Type

The resource type (rt) is defined as: oic.r.brewing.

6.79.4 RAML Definition

```RAML
#%RAML 0.8
title: Brewing
version: v1.1.0-20170815
traits:
  - interface :
    queryParameters:
      if:  ```
enum: ["oic.if.rw", "oic.if.baseline"]

/BrewingResURI:

description: |
This resource describes the attributes associated with brewing
This resource is used for configuration only
Operation is handled independently of this resource
The amount requested is in ml
The strength of a brewed drink is an integer, the range of which may be enforced by the
presence of a strengthrange Property.

is : ['interface']

get:

description: |
Retrieves the state of brewing.

responses :
200:

body:
application/json:

schema: |
{
  "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.brewing.json#",
  "$schema": "http://json-schema.org/draft-04/schema#",
  "description": "Copyright (c) 2017 Open Connectivity Foundation, Inc. All rights reserved.",
  "title": "Brewing",
  "definitions": {
    "oic.r.brewing": {
      "type": "object",
      "properties": {
        "amountrequested": {
          "type": "integer",
          "description": "The amount requested in ml."
        },
        "strength": {
          "type": "integer",
          "description": "The strength of a brewed drink."
        },
        "strengthrange": {
          "type": "array",
          "minItems": 2,
          "maxItems": 2,
          "readOnly": true,
          "items": {
            "type": "integer"
          }
        }
      }
    }
  },
  "type": "object",
  "allOf": [
    {"$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},
    {"$ref": "#/definitions/oic.r.brewing"}
  ],
  "required": [ "amountrequested" ]
}

example: |
{
  "rt": ["oic.r.brewing"],
  "id": "unique_example_id",
  "amountrequested": 120,
"strength": 8,
  "strengthrange": [1,10]
}

post:

description: |
  Sets the brewing values

body:
application/json:
schema: |
  
  
  "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.brewing.json#",
  "$schema": "http://json-schema.org/draft-04/schema#",
  "description": "Copyright (c) 2017 Open Connectivity Foundation, Inc. All rights reserved.",
  "title": "Brewing",
  "definitions": {
    "oic.r.brewing": {
      "type": "object",
      "properties": {
        "amountrequested": {
          "type": "integer",
          "description": "The amount requested in ml."
        },
        "strength": {
          "type": "integer",
          "description": "The strength of a brewed drink."
        }
      }
    }
  }

  "strengthrange": {
    "type": "array",
    "minItems": 2,
    "maxItems": 2,
    "readOnly": true,
    "items": {
      "type": "integer"
    }
  }

  
  "required": [ "amountrequested" ]

  example: |
  
  "id": "unique_example_id",
  "amountrequested": 120,
  "strength": 8

responses :
  200:

6.79.5 Property Definition

Table 163 Brewing Property Definitions

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
</table>

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### 6.79 CRUDN behaviour

<table>
<thead>
<tr>
<th>amountrequested</th>
<th>integer</th>
<th>yes</th>
<th>The amount requested in ml.</th>
</tr>
</thead>
<tbody>
<tr>
<td>strength</td>
<td>integer</td>
<td></td>
<td>The strength of a brewed drink.</td>
</tr>
<tr>
<td>strengthrange</td>
<td>array:</td>
<td>see</td>
<td>Read Only</td>
</tr>
<tr>
<td></td>
<td>schema</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Table 164 Brewing CRUDN operations

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/BrewingResURI</td>
<td>get</td>
<td>post</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### 6.80 Energy

#### 6.80.1 Introduction

This resource describes the attributes associated with electrical energy. This can be used for either rated (read-only), desired (read-write) or measured (read-only) energy. The voltage is in Volts (V), current in Amps (A), and frequency in Hertz (Hz).

#### 6.80.2 Example URI

`/EnergyResURI`

#### 6.80.3 Resource Type

The resource type (rt) is defined as: `oic.r.energy.electrical`.

#### 6.80.4 RAML Definition

```yaml
#%RAML 0.8
title: Energy
version: v1.1.0-20170815
traits:
  - interface-update:
    queryParameters:
      if:
        enum: ["oic.if.rw", "oic.if.baseline"]
  - interface-all:
    queryParameters:
      if:
        enum: ["oic.if.r", "oic.if.rw", "oic.if.s", "oic.if.baseline"]

/EnergyResURI:
  description: |
  This resource describes the attributes associated with electrical energy
  This can be used for either rated (read-only), desired (read-write) or measured (read-only)
  energy
  The voltage is in Volts (V), current in Amps (A), and frequency in Hertz (Hz).
  get:
    description: |
    Retrieves the current energy.
    is: ['interface-all']
    responses:
      200:
        body:
          application/json:
            schema: |
```
"id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.energy.json#",
"$schema": "http://json-schema.org/draft-04/schema#",
"description": "Copyright (c) 2017 Open Connectivity Foundation, Inc. All rights reserved.",
"title": "Electrical Energy",
"definitions": {
  "oic.r.energy.electrical": {
    "type": "object",
    "properties": {
      "voltage": {
        "type": "number",
        "readOnly": true,
        "description": "The electric voltage in Volts (V)."
      },
      "desiredvoltage": {
        "type": "number",
        "description": "The desired electric voltage in Volts (V)."
      },
      "current": {
        "type": "number",
        "readOnly": true,
        "description": "The electric current in Amps (A)."
      },
      "desiredcurrent": {
        "type": "number",
        "description": "The desired electric current in Amps (A)."
      },
      "frequency": {
        "type": "number",
        "readOnly": true,
        "description": "The electric frequency in Hertz (Hz)."
      },
      "desiredfrequency": {
        "type": "number",
        "description": "The desired electric frequency in Hertz (Hz)."
      }
    }
  }
},
"type": "object",
"allOf": [
  {
    "$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"
  },
  {
    "$ref": "#/definitions/oic.r.energy.electrical"
  }
],
"required": [ "voltage", "current", "frequency" ]
}
example: |
{
  "rt": ["oic.r.energy.electrical"],
  "id": "unique_example_id",
  "voltage": 120.0,
  "current": 5.0,
  "frequency": 60.0
}
post:
  description: |
    Sets the desired energy values
    is: ["interface-update"]
  body:
    application/json:
      schema: |
        { "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.energy-Update.json#" }
"$schema": "http://json-schema.org/draft-04/schema#",
"description" : "Copyright (c) 2017 Open Connectivity Foundation, Inc. All rights reserved.",
"title": "Electrical Energy",
"definitions": {
  "oic.r.energy.electrical": {
    "type": "object",
    "anyOf": [{
      "required": ["desiredvoltage"],
      "type": "number",
      "description": "The desired electric voltage in Volts (V)."
    },
    {"required": ["desiredcurrent"],
      "type": "number",
      "description": "The desired electric current in Amps (A)."
    },
    {"required": ["desiredfrequency"],
      "type": "number",
      "description": "The desired electric frequency in Hertz (Hz)."
    }]
  },
  "properties": {
    "desiredvoltage": {
      "type": "number",
      "description": "The desired electric voltage in Volts (V)."
    },
    "desiredcurrent": {
      "type": "number",
      "description": "The desired electric current in Amps (A)."
    },
    "desiredfrequency": {
      "type": "number",
      "description": "The desired electric frequency in Hertz (Hz)."
    }
  }
},
"type": "object",
"allOf": [{
  "$ref": "oic.baseResource.json#/definitions/oic.r.baseresource",
  "$ref": "#/definitions/oic.r.energy.electrical"
}]
},
"example": |
| "id": "unique_example_id",
| "desiredvoltage": 130.0,
| "desiredcurrent": 6.0
}

responses :
200:

6.80.5 Property Definition

Table 165 Energy Property Definitions

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>desiredcurrent</td>
<td>number</td>
<td></td>
<td></td>
<td>The desired electric current in Amps (A).</td>
</tr>
<tr>
<td>current</td>
<td>number</td>
<td>yes</td>
<td>Read Only</td>
<td>The electric current in Amps (A).</td>
</tr>
<tr>
<td>frequency</td>
<td>number</td>
<td>yes</td>
<td>Read Only</td>
<td>The electric frequency in Hertz (Hz).</td>
</tr>
<tr>
<td>voltage</td>
<td>number</td>
<td>yes</td>
<td>Read Only</td>
<td>The electric voltage in Volts (V).</td>
</tr>
<tr>
<td>desiredfrequency</td>
<td>number</td>
<td></td>
<td></td>
<td>The desired electric frequency in Hertz (Hz).</td>
</tr>
<tr>
<td>Resource</td>
<td>Create</td>
<td>Read</td>
<td>Update</td>
<td>Delete</td>
</tr>
<tr>
<td>---------------</td>
<td>--------</td>
<td>------</td>
<td>--------</td>
<td>--------</td>
</tr>
<tr>
<td>/EnergyResURI</td>
<td></td>
<td>get</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

6.81 Energy Generation

6.81.1 Introduction

This resource describes the attributes associated with energy generation. energygenerated is a number that provides the energy generated in Watt-hour(Wh).

6.81.2 Example URI

/example/URI

6.81.3 Resource Type

The resource type (rt) is defined as: oic.r.energy.generation.

6.81.4 RAML Definition

```rml
#%RAML 0.8

title: EnergyGeneration
version: v1.1.0-20170815

traits:
- interface:
  queryParameters:
    if:
      enum: ["oic.if.s", "oic.if.baseline"]

/EnergyGenerationResURI:

description: |
  This resource describes the attributes associated with energy generation.
  energygenerated is a number that provides the energy generated in Watt-hour(Wh).

is: ['interface']

get:

description: |
  Retrieves the current energy generation.

responses:

200:

  body:
  application/json:
    schema: |

  "id": 
  "http://openinterconnect.org/iotdatamodels/schemas/oic.r.energy.generation.json#",
  "$schema": "http://json-schema.org/draft-04/schema#",
  "description": "Copyright (c) 2017 Open Connectivity Foundation, Inc. All rights reserved.",
  "title": "EnergyGeneration",
  "definitions": |
  "oic.r.energy.generation": |

```

The desired electric voltage in Volts (V).


```
"type": "object",
"properties": {
  "energygenerated": {
    "type": "number",
    "description": "The energy generated in Watt-hour(Wh).",
    "readOnly": true
  }
}

"type": "object",
"allOf": [
  {"$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},
  {"$ref": "#/definitions/oic.r.energy.generation"}
],
"required": ["energygenerated"]
```

---

### 6.81.5 Property Definition

**Table 167 Energy Generation Property Definitions**

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>energygenerated</td>
<td>number</td>
<td>yes</td>
<td>Read Only</td>
<td>The energy generated in Watt-hour(Wh).</td>
</tr>
</tbody>
</table>

---

### 6.81.6 CRUDN behaviour

**Table 168 Energy Generation CRUDN operations**

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/EnergyGenerationResURI</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>get</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

### 6.82 Foaming

#### 6.82.1 Introduction

This resource describes the attributes associated with foaming. The foam strength of the liquid is represented as an integer. The foam strength is an integer, the range of which may be enforced by the presence of a range Property defined in the baseresource.

#### 6.82.2 Example URI

```
/FoamingResURI
```

#### 6.82.3 Resource Type

The resource type (rt) is defined as: oic.r.foaming.

#### 6.82.4 RAML Definition

```
#%RAML 0.8
title: Foaming
version: v1.1.0-20170815
traits:
  - interface:
    queryParameters:
      if:
        enum: ["oic.if.rw", "oic.if.baseline"]
```
This resource describes the attributes associated with foaming.

The foam strength of the liquid is represented as an integer.

The foam strength is an integer, the range of which may be enforced by the presence of a range property defined in the baseresource.

is: ['interface']

get:

description: |
Retrieves the state of foaming.

responses:
200: 

type: application/json:
schema: |

example: |

post:

description: |
Sets foaming value

body: application/json:
schema: |


"description": "Copyright (c) 2017 Open Connectivity Foundation, Inc. All rights reserved.",

"title": "Foaming",
"definitions": {
  "oic.r.foaming": {
    "type": "object",
    "properties": {
      "foamstrength": {
        "type": "integer",
        "description": "The desired foaminess of the liquid."
      }
    }
  }
},

"type": "object",
"allOf": [
  {"$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},
  {"$ref": ":#/definitions/oic.r.foaming"}
],

"required": ["foamstrength"]

example: |
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6.82.5 Property Definition

Table 169 Foaming Property Definitions

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>foamstrength</td>
<td>integer</td>
<td>yes</td>
<td></td>
<td>The desired foaminess of the liquid.</td>
</tr>
</tbody>
</table>

6.82.6 CRUDN behaviour

Table 170 Foaming CRUDN operations

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/FoamingResURI</td>
<td>get</td>
<td>post</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

6.83 Grinder

6.83.1 Introduction

This resource describes the attributes associated with a grinder. The coarseness of the grounds is an integer. The higher the value, the less coarse. remaining is a percentage that represents the unground material left.

6.83.2 Example URI

/GrinderResURI

6.83.3 Resource Type

The resource type (rt) is defined as: oic.r.grinder.

6.83.4 RAML Definition

```raml
#%RAML 0.8

title: Grinder

version: v1.1.0-20170815

traits:
  - interface:
    queryParameters:
      if:
        enum: ["oic.if.rw", "oic.if.baseline"]

/GrinderResURI:

description: |
  This resource describes the attributes associated with a grinder
  The coarseness of the grounds is an integer
  The higher the value, the less coarse
  remaining is a percentage that represents the unground material left.

is: ['interface']

get:

description: |
  Retrieves the state of a grinder.

responses:
  200:
    body:
      application/json:
        schema: |
        |
          "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.grinder.json#",
```

Copyright Open Connectivity Foundation, Inc. © 2016-18. All rights Reserved
"$schema": "http://json-schema.org/draft-04/schema#",
"description": "Copyright (c) 2017 Open Connectivity Foundation, Inc. All rights reserved.",
"title": "Grinder",
"definitions": {
"oic.r.grinder": {
"type": "object",
"properties": {
"coarseness": {
"type": "integer",
"description": "The desired coarseness when grinding."
},
"remaining": {
"type": "integer",
"description": "The percentage of unground material left.",
"readOnly": true,
"minimum": 0,
"maximum": 100
}
}
},
"type": "object",
"allOf": [
{"$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},
{"$ref": "#/definitions/oic.r.grinder"}
],
"required": ["coarseness"]
}
example: |
{
"rt": ["oic.r.grinder"],
"id": "unique_example_id",
"coarseness": 10,
"remaining": 50
}
post:

description: |
Sets grinding values

body: application/json:
schema: |
{
"id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.grinder-Update.json#",
"$schema": "http://json-schema.org/draft-04/schema#",
"description": "Copyright (c) 2017 Open Connectivity Foundation, Inc. All rights reserved.",
"title": "Grinder",
"definitions": {
"oic.r.grinder": {
"type": "object",
"properties": {
"coarseness": {
"type": "integer",
"description": "The desired coarseness when grinding."
}
}
}
},
"type": "object",
"allOf": [
{"$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},
{"$ref": "#/definitions/oic.r.grinder"}
],
"required": ["coarseness"]
}
"required": [ "coarseness" ]
}

example: |
{
  "id": "unique_example_id",
  "coarseness": 10
}

responses:
200:
  body:
    application/json:
      schema: |
        { "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.grinder-
        Update.json#",
         "$schema": "http://json-schema.org/draft-04/schema#",
         "description": "Copyright (c) 2017 Open Connectivity Foundation, Inc. All rights
         reserved.",
         "title": "Grinder",
         "definitions": { "oic.r.grinder": { "type": "object",
           "properties": { "coarseness": { "type": "integer",
             "description": "The desired coarseness when grinding." }
           } } },
        "type": "object",
        "allOf": [
            "$ref": "oic.baseResource.json#/definitions/oic.r.baseresource",
            "$ref": "#/definitions/oic.r.grinder"
        ],
        "required": [ "coarseness" ]
    }

example: |
{
  "id": "unique_example_id",
  "coarseness": 10
}

### 6.83.5 Property Definition

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>coarseness</td>
<td>integer</td>
<td>yes</td>
<td></td>
<td>The desired coarseness when grinding.</td>
</tr>
<tr>
<td>remaining</td>
<td>integer</td>
<td></td>
<td>Read Only</td>
<td>The percentage of unground material left.</td>
</tr>
</tbody>
</table>

### 6.83.6 CRUDN behaviour

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
</table>

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6.84 Liquid Level

6.84.1 Introduction
This resource describes the attributes associated with liquid level. The current level and desired level are defined in terms of a percentage. The behaviour of when the current level and desired level are not equal is determined by the device manufacturer.

6.84.2 Example URI
/LiquidLevelResURI

6.84.3 Resource Type
The resource type (rt) is defined as: oic.r.liquid.level.

6.84.4 RAML Definition

```raml
#%RAML 0.8
title: OCFLiquidLevel
version: v1.1.0-20160519

traits:
- interface:
  queryParameters:
    if:
      enum: ["oic.if.rw", "oic.if.r", "oic.if.baseline"]

/LiquidLevelResURI:
  description: |
    This resource describes the attributes associated with liquid level.
    The current level and desired level are defined in terms of a percentage.
    The behaviour of when the current level and desired level are not equal is determined by the device manufacturer.
    
is : ['interface']

get:
  description: |
    Retrieves the state of liquid level.

  responses:
  200:
    body:
      application/json:
        schema: |
          |
            "id": "https://openinterconnect.org/iotdatamodels/schemas/oic.r.liquid.level.json#",
            "$schema": "https://json-schema.org/draft-04/schema#",
            "description" : "Copyright (c) 2017 Open Connectivity Foundation, Inc. All rights reserved.",
            "title": "Liquid Level",
            "definitions": |
              "oic.r.liquid.level": |
                "type": "object",
                "properties": |
                  "currentlevel": |
                    "type": "integer",
                    "description": "The current level of the liquid in percentage.",
                    "readOnly": true,
                    "minimum": 0,
                    "maximum": 100
                  |
                  "desiredlevel": |
```

"type": "integer",
  "description": "The desired level of the liquid in percentage.",
  "minimum": 0,
  "maximum": 100
}

"allOf": [
  {
    "$ref": "oic.baseResource.json#/definitions/oic.r.baseresource",
  }
  {
    "$ref": "#/definitions/oic.r.liquid.level"
  }
],
"required": [ "currentlevel" ]
}

example: |
{
  "rt": ["oic.r.liquid.level"],
  "id": "unique_example_id",
  "currentlevel": 60,
  "desiredlevel": 80
}

post:

description: |
Sets liquid level values

body:

application/json:

  schema: |
  {
    "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.liquid.level-
  Update.json#",
    "$schema": "http://json-schema.org/draft-04/schema#",
    "description": "Copyright (c) 2017 Open Connectivity Foundation, Inc. All rights
reserved.",
    "title": "Liquid Level",
    "definitions": {
      "oic.r.liquid.level": {"type": "object",
      "properties": {
        "desiredlevel": {"type": "integer",
        "description": "The desired level of the liquid in percentage.",
        "minimum": 0,"maximum": 100
      }
    },
    "allOf": ["oic.r.baseresource.json#/definitions/oic.r.baseresource"
      {
    "$ref": "#/definitions/oic.r.liquid.level"
  }
],
"required": [ "desiredlevel" ]
}

example: |
{
  "id": "unique_example_id",
  "desiredlevel": 80
}
responses:
200:
body:
application/json:
schema:
{
  "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.liquid.level-
Update.json#",
  "$schema": "http://json-schema.org/draft-04/schema#",
  "description": "Copyright (c) 2017 Open Connectivity Foundation, Inc. All rights
reserved.",
  "title": "Liquid Level",
  "definitions": {
    "oic.r.liquid.level": {
      "type": "object",
      "properties": {
        "desiredlevel": {
          "type": "integer",
          "description": "The desired level of the liquid in percentage.",
          "minimum": 0,
          "maximum": 100
        }
      }
    }
  }
},
"type": "object",
"allOf": [
  {"$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},
  {"$ref": "#/definitions/oic.r.liquid.level"}
],
"required": [ "desiredlevel" ]
}
example:
{
  "id": "unique_example_id",
  "desiredlevel": 80
}

6.84.5 Property Definition

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>currentlevel</td>
<td>integer</td>
<td>yes</td>
<td>Read Only</td>
<td>The current level of the liquid in percentage.</td>
</tr>
<tr>
<td>desiredlevel</td>
<td>integer</td>
<td></td>
<td></td>
<td>The desired level of the liquid in percentage.</td>
</tr>
</tbody>
</table>

6.84.6 CRUDN behaviour

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/LiquidLevelResURI</td>
<td>get</td>
<td>post</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
6.85 Vehicle Connector

6.85.1 Introduction

This resource describes the attributes associated with an electric vehicle charging connector. The connected state is a boolean indicating the status of the connector (False = disconnected, True = connected). The rated charging capacity and rated discharging capacity are in Amps (A).

6.85.2 Example URI

/VehicleConnectorResURI

6.85.3 Resource Type

The resource type (rt) is defined as: oic.r.vehicle.connector.

6.85.4 RAML Definition

```yaml
#%RAML 0.8

title: VehicleConnector

version: v1.1.0-20170815

traits:
- interface:
  
    queryParameters:
    
        if:
        
            enum: ["oic.if.s", "oic.if.baseline"]

/VehicleConnectorResURI:

    description: |
This resource describes the attributes associated with an electric vehicle charging connector
The connected state is a boolean indicating the status of the connector (False = disconnected,
True = connected)
The rated charging capacity and rated discharging capacity are in Amps (A).

is : ['interface']

get:
    description: |
Retrieves the state of the vehicle connector.

    responses :
    200:
        body:
            application/json:
                schema: |

                |

        "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.vehicle.connector.json#",

        "$schema": "http://json-schema.org/draft-04/schema#",

        "description" : "Copyright (c) 2017 Open Connectivity Foundation, Inc. All rights
reserved.",

        "title": "VehicleConnector",

        "definitions": {
          "oic.r.vehicle.connector": {

            "type": "object",

            "properties": {

              "connected" : {

                "type": "boolean",

                "description": "The connection state.",

                "readOnly": true

              },

              "ratedchargingcapacity" : {

                "type": "number",

                "description": "The rated charging capacity in Amps (A).",

                "readOnly": true

              }

            }

          }

        }

```

Copyright Open Connectivity Foundation, Inc. © 2016-18. All rights Reserved
"rateddischargingcapacity" : {
    "type": "number",
    "description": "The rated discharging capacity in Amps (A)",
    "readOnly": true
}

example: |
{
  rt:     ["oic.r.vehicle.connector"],
  id:     "unique_example_id",
  "connected": true,
  "ratedchargingcapacity": 20.0,
  "rateddischargingcapacity": 5.0
}

### 6.85.5 Property Definition

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>connected</td>
<td>boolean</td>
<td>yes</td>
<td>Read Only</td>
<td>The connection state</td>
</tr>
<tr>
<td>ratedchargingcapacity</td>
<td>number</td>
<td></td>
<td>Read Only</td>
<td>The rated charging capacity in Amps (A)</td>
</tr>
<tr>
<td>rateddischargingcapacity</td>
<td>number</td>
<td></td>
<td>Read Only</td>
<td>The rated discharging capacity in Amps (A)</td>
</tr>
</tbody>
</table>

### 6.85.6 CRUDN behaviour

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/VehicleConnectorResURI</td>
<td>get</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### 6.86 Time Stamp

#### 6.86.1 Introduction

This resource describes the properties associated with a timestamp. TimeStamp is a string that captures the timestamp using the RFC3339 datetime format (e.g: 2007-04-05T14:30Z) (Time+Date+Timezone)

#### 6.86.2 Example URI

/TimeStampResURI

#### 6.86.3 Resource Type

The resource type (rt) is defined as: oic.r.time.stamp.
# %RAML 0.8

title: TimeStamp

version: v1.1.0-20170830

traits:
  - interface :

    queryParameters:
      if:
        enum: ["oic.if.s", "oic.if.r", "oic.if.baseline"]

/TimeStampResURI:

description: |
This resource describes the properties associated with a timestamp.

TimeStamp is a string that captures the timestamp using the RFC3339 datetime format (e.g: 2007-04-05T14:30Z) (Time=Date+Timezone)

is: ['interface']

get:

description: |
Retrieves the current timestamp data.

responses:
  200:
    body:
      application/json:
        schema: |
          {
            "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.time.stamp.json#",
            "$schema": "http://json-schema.org/draft-04/schema#",
            "description" : "Copyright (c) 2017, 2018 Open Connectivity Foundation, Inc. All
rights reserved.",
            "title": "Observed Time",
            "definitions": { 
              "oic.r.time.stamp": { 
                "type": "object",
                "properties": { 
                  "timestamp": { 
                    "type": "string",
                    "format": "date-time",
                    "description": "An RFC3339 formated time indicating when the data
was observed (e.g.: 2016-02-15T09:19Z, 1996-12-19T16:39:57-08:00)",
                    "readOnly": true
                  }
                }
              }
            }
          }
        example: |
          { 
            "rt": ["oic.r.time.stamp"],
            "id": "unique_example_id",
            "timestamp": "2015-11-05T14:30Z"
          }
### 6.86.5 Property Definition

#### Table 177 Time Stamp Property Definitions

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>timestamp</td>
<td>string</td>
<td>yes</td>
<td>Read Only</td>
<td>An RFC3339 formatted time indicating when the data was observed (e.g.: 2016-02-15T09:19Z, 1996-12-19T16:39:57-08:00)</td>
</tr>
</tbody>
</table>

### 6.86.6 CRUDN behaviour

#### Table 178 Time Stamp CRUDN operations

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/TimeStampResURI</td>
<td></td>
<td>get</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### 6.87 3D Printer

#### 6.87.1 Introduction

This resource describes the attributes associated with 3D Printer. The type of 3D printing technology is specified by an enumerated string value. The maximum sizes in mm are included for the x, y, and z dimensions. A designation of whether the device is capable of WAN connectivity is represented in a boolean. The memory capacity is captured in MB. The print

#### 6.87.2 Example URI

/3DPrinterResURI

#### 6.87.3 Resource Type

The resource type (rt) is defined as: oic.r.printer.3d.

#### 6.87.4 RAML Definition

```
%RAML 0.8

title: 3DPrinter
version: v1.1.0-20180115

traits:
- interface:
  queryParameters:
    if:
      enum: ["oic.if.r", "oic.if.baseline"]

/3DPrinterResURI:

description: |

This resource describes the attributes associated with 3D Printer
The type of 3D printing technology is specified by an enumerated string value
The maximum sizes in mm are included for the x, y, and z dimensions
A designation of whether the device is capable of WAN connectivity is represented in a boolean
The memory capacity is captured in MB.
The print

is : ['interface']

get:

description: |
```
Retrieves the current 3D Printer attributes.

responses:

200:

body:

application/json:

schema: |

   |
   "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.3dprinter.json#",
   "$schema": "http://json-schema.org/draft-04/schema#",
   "description": "Copyright (c) 2018 Open Connectivity Foundation, Inc. All rights reserved.",
   "title": "3D Printer",
   "definitions": {
     "oic.r.printer.3d": {
       "type": "object",
       "properties": {
         "3dprinttype": {
           "type": "string",
           "description": "The type of 3D printing technology.",
           "readOnly": true
         },
         "printssizex": {
           "type": "number",
           "description": "This represents the maximum size of printing object in the direction of X-axis. The unit is mm.",
           "readOnly": true
         },
         "printsizey": {
           "type": "number",
           "description": "This represents the maximum size of printing object in the direction of Y-axis. The unit is mm.",
           "readOnly": true
         },
         "printsizez": {
           "type": "number",
           "description": "This represents the maximum size of printing object in the direction of Z-axis. The unit is mm.",
           "readOnly": true
         },
         "wanconnected": {
           "type": "boolean",
           "description": "This value indicates the connectivity capability of the 3D printer. If the value is false, the printer does not have network facility to Wide Area Network such as internet and GSM. If the value is true, the printer has network connectivity",
           "readOnly": true
         },
         "memorysize": {
           "type": "number",
           "description": "This value represents the total memory size of the printer. The unit is MB (Mega Bytes)",
           "readOnly": true
         }
       }"}
"allOf": [""oic.baseResource.json#/definitions/oic.r.baseresource"],
  "$ref": "#/definitions/oic.r.printer.3d"
],
"required": ["3dprinttype", "printsizex", "printsizey", "printsizez",
  "wanconnected", "memorysize"
}

example: |
   
   |
   
   "rt" : ["oic.r.printer.3d"],
   "id" : "unique_example_id",
   "3dprinttype": "Digital Light Processing",
   "printsizex": 300.00,
   "printsizey": 200.50,
   "printsizez": 250.75,
   "wanconnected": false,
   "memorysize": 120.5

6.87.5 Property Definition

Table 179 3D Printer Property Definitions

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>memorysize</td>
<td>number</td>
<td>yes</td>
<td>Read Only</td>
<td>This value represents the total memory size of the printer. The unit is MB(Mega Bytes)</td>
</tr>
<tr>
<td>3dprinttype</td>
<td>string</td>
<td>yes</td>
<td>Read Only</td>
<td>The type of 3D printing technology.</td>
</tr>
<tr>
<td>wanconnected</td>
<td>boolean</td>
<td>yes</td>
<td>Read Only</td>
<td>This value indicates the connectivity capability of the 3D printer. If the value is false, the printer does not have network facility to Wide Area Network such as internet and GSM. If the value is true, the printer has network connectivity</td>
</tr>
<tr>
<td>printsizex</td>
<td>number</td>
<td>yes</td>
<td>Read Only</td>
<td>This represents the maximum size of printing object in the direction of X-axis. The unit is mm.</td>
</tr>
</tbody>
</table>
This represents the maximum size of printing object in the direction of Y-axis. The unit is mm.

This represents the maximum size of printing object in the direction of Z-axis. The unit is mm.

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/3DPrinterResURI</td>
<td></td>
<td>get</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### 6.88 Blood Pressure

#### 6.88.1 Introduction

This resource describes the properties associated with a person's Blood Pressure. The unit is a single value that is one of mmHg or kPa. If the unit Property is missing the default is a millimeter of mercury [mmHg]. The BloodPressure and unit Properties are read-only values that are provided by the server. When range (from oic.r.baseresource) is omitted the default is 0 to +MAXFLOAT.

#### 6.88.2 Example URI

/BloodPressureResURI

#### 6.88.3 Resource Type

The resource type (rt) is defined as: oic.r.blood.pressure.

#### 6.88.4 RAML Definition

```yaml
#%RAML 0.8

title: OICBloodPressure

version: v1.1.0-20160519

traits:
  - interface:
      queryParameters:
        if:
          enum: ["oic.if.s", "oic.if.baseline"]

/BloodPressureResURI:

description: |
  This resource describes the properties associated with a person's Blood Pressure.

  The unit is a single value that is one of mmHg or kPa.

  If the unit Property is missing the default is a millimeter of mercury [mmHg].

  The BloodPressure and unit Properties are read-only values that are provided by the server.

  When range (from oic.r.baseresource) is omitted the default is 0 to +MAXFLOAT.

is: ['interface']

get:

description: |
```
Retrieves blood pressure of an object.

responses:

200:

body:
application/json:

  schema: |

    {
      "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.blood.pressure.json#",
      "$schema": "http://json-schema.org/draft-04/schema#",
      "description": "Copyright (c) 2018 Open Connectivity Foundation, Inc. All rights reserved."
    }

    "title": "Blood Pressure",
    "definitions": {
      "oic.r.blood.pressure": {
        "type": "object",
        "properties": {
          "systolic": { "type": "number", "minimum": 0, "readOnly": true, "description": "Systolic blood pressure" },
          "diastolic": { "type": "number", "minimum": 0, "readOnly": true, "description": "Diastolic blood pressure" },
          "map": { "type": "number", "minimum": 0, "readOnly": true, "description": "Mean Arterial Pressure (MAP)" },
          "units": { "type": "string", "readOnly": true, "enum": ["mmHg", "kPa"], "description": "Blood pressure unit" }
        }
      },
      "type": "object",
      "allOf": [
        { "$ref": "oic.core.json#/definitions/oic.core"},
        { "$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},
        { "$ref": "#/definitions/oic.r.blood.pressure" }
      ],
      "required": ["systolic", "diastolic"]
    }

example: |

  {
    "rt": ["oic.r.blood.pressure"],
    "id": "unique_example_id",
    "systolic": 110,
    "diastolic": 85,
    "units": "mmHg" }
### 6.88.5 Property Definition

#### Table 181 Blood Pressure Property Definitions

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>units</td>
<td>string</td>
<td></td>
<td>Read Only</td>
<td>Blood pressure unit</td>
</tr>
<tr>
<td>map</td>
<td>number</td>
<td></td>
<td>Read Only</td>
<td>Mean Arterial Pressure (MAP)</td>
</tr>
<tr>
<td>systolic</td>
<td>number</td>
<td>yes</td>
<td>Read Only</td>
<td>Systolic blood pressure</td>
</tr>
<tr>
<td>diastolic</td>
<td>number</td>
<td>yes</td>
<td>Read Only</td>
<td>Diastolic blood pressure</td>
</tr>
</tbody>
</table>

#### 6.88.6 CRUDN behaviour

#### Table 182 Blood Pressure CRUDN operations

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/BloodPressureResURI</td>
<td></td>
<td>get</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### 6.89 Blood Pressure Monitor Atomic Measurement Baseline Representation

#### 6.89.1 Introduction

This resource describes the properties associated with Blood Pressure Monitor. The resource is an atomic measurement of blood pressure (oic.r.blood.pressure), pulse rate (oic.r.pulserate), observed time (oic.r.time.stamp), and user ID (oic.r.userid).

#### 6.89.2 Example URI

/BloodPressureMonitorAMResURI

#### 6.89.3 Resource Type

The resource type (rt) is defined as: oic.r.bloodpressuremonitor-am.

#### 6.89.4 RAML Definition

```raml
#%RAML 0.8

traits:
- interface-ll :
  queryParameters:
    if: enum: ["oic.if.ll"]

- interface-b :
  queryParameters:
    if: enum: ["oic.if.b"]

- interface-baseline :
  queryParameters:
    if: enum: ["oic.if.baseline"]

- interface-all :
  queryParameters:
    if:
      enum: ["oic.if.b", "oic.if.ll", "oic.if.baseline"]

/BloodPressureMonitorAMResURI?if=oic.if.baseline:
  description: |
```
This resource describes the properties associated with Blood Pressure Monitor.
The resource is an atomic measurement of blood pressure (oic.r.blood.pressure), pulse rate
(oic.r.pulserate), observed time (oic.r.time.stamp), and user ID (oic.r.userid).

is : ['interface-baseline']

get:

description: |
Retrieves the current blood pressure.

responses:

200:

body:

type: application/json:

    schema:

      "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.bloodpressuremonitor-am.json#",
      "$schema": "http://json-schema.org/draft-04/schema#",
      "description": "Copyright (c) 2018 Open Connectivity Foundation, Inc. All rights
reserved.",
      "title": "Blood Pressure Monitor Atomic Measurement",
      "definitions": {
        "oic.r.bloodpressuremonitor-am": {
          "type": "object",
          "properties": {
            "rt": {
              "type": "array",
              "minItems": 2,
              "maxItems": 2,
              "uniqueItems": true,
              "items": {
                "enum": ["oic.r.bloodpressuremonitor-am", "oic.wk.atomicmeasurement"]
              }
            },
            "rts": {
              "type": "array",
              "minItems": 1,
              "uniqueItems": true,
              "items": {
                "enum": ["oic.r.blood.pressure", "oic.r.pulserate", "oic.r.userid",
                         "oic.r.time.stamp"]
              }
            }
          },
          "type": "object",
          "allOf": [
            {"$ref": "oic.core.json#/definitions/oic.core"},
            {"$ref": "oic.collection-schema.json#/definitions/oic.collection.properties"},
            {"$ref": "oic.collection-schema.json#/definitions/oic.collection.links.arrayoflinks"},
            {"$ref": "#/definitions/oic.r.bloodpressuremonitor-am"}
          ]
        }
      }
"required": ["rts-m"]

}

example: |

{
  "rt": ["oic.r.bloodpressuremonitor-am", "oic.wk.atomicmeasurement"],
  "if": ["oic.if.b", "oic.if.ll", "oic.if.baseline"],
  "rts-m": ["oic.r.blood.pressure"],
  "rts": ["oic.r.blood.pressure", "oic.r.pulserate"],
  "links": [
    {
      "href": "#/myBloodPressureResURI",
      "rt": ["oic.r.blood.pressure"],
      "if": ["oic.if.s", "oic.if.baseline"]
    },
    {
      "href": "#/myPulseRateResURI",
      "rt": ["oic.r.pulserate"],
      "if": ["oic.if.s", "oic.if.baseline"]
    }
  ]
}

6.89.5 Property Definition

Table 183 Blood Pressure Monitor Atomic Measurement Baseline Representation Property Definitions

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>rt</td>
<td>array: see schema</td>
<td></td>
<td></td>
<td>This contains all mandatory resource types for this atomic measurement.</td>
</tr>
<tr>
<td>rts-m</td>
<td>array: see schema</td>
<td>yes</td>
<td></td>
<td>This contains all possible resource types for this atomic measurement.</td>
</tr>
<tr>
<td>rts</td>
<td>array: see schema</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

6.89.6 CRUDN behaviour

Table 184 Blood Pressure Monitor Atomic Measurement Baseline Representation CRUDN operations

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/BloodPressureMonitorAMResURI</td>
<td>get</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

6.90 BMI

6.90.1 Introduction

This resource describes the properties associated with a person's Body Mass Index (BMI). The unit, which is the default unit, is kg/m². The bmi and unit Properties are read-only values that are provided by the server. When range (from oic.r.baseresource) is omitted the default is 0 to +MAXFLOAT.

6.90.2 Example URI

/BMIResURI
### 6.90.3 Resource Type
The resource type (rt) is defined as: oic.r.bmi.

### 6.90.4 RAML Definition

```raml
title: OICBMI
version: v1.1.0-20160519
traits:
  - interface:
      queryParameters:
        if:
          enum: ["oic.if.s", "oic.if.baseline"]

/BMIResURI:
  description: |
    This resource describes the properties associated with a person's Body Mass Index (BMI).
    The unit, which is the default unit, is kg/m^2.
    The bmi and unit Properties are read-only values that are provided by the server.
    When range (from oic.r.baseresource) is omitted the default is 0 to +MAXFLOAT.
  is: ['interface']
  get:
    description: |
      Retrieves BMI of an object.
  responses:
    200:
      body:
        application/json:
          schema: |
            
            
            "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.bmi.json#",
            "$schema": "http://json-schema.org/draft-04/schema#",
            "description": "Copyright (c) 2018 Open Connectivity Foundation, Inc. All rights reserved.",
            "title": "Body Mass Index (BMI)",
            "definitions": {
              "oic.r.bmi": {
                "type": "object",
                "properties": {
                  "bmi": {
                    "type": "number",
                    "minimum": 0,
                    "readOnly": true,
                    "description": "Body Mass Index (BMI) in kg/m^2"
                  }
                }
              }
            }
            "allOf": [
              {"$ref": "oic.core.json#/definitions/oic.core"},
              {"$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},
              {"$ref": "#/definitions/oic.r.bmi"}
            ],
            "required": ["bmi"]
          example: |
```

```json
{
    "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.bmi.json#",
    "$schema": "http://json-schema.org/draft-04/schema#",
    "description": "Copyright (c) 2018 Open Connectivity Foundation, Inc. All rights reserved.",
    "title": "Body Mass Index (BMI)",
    "definitions": {
      "oic.r.bmi": {
        "type": "object",
        "properties": {
          "bmi": {
            "type": "number",
            "minimum": 0,
            "readOnly": true,
            "description": "Body Mass Index (BMI) in kg/m^2"
          }
        }
      }
    }
    "allOf": [
      {"$ref": "oic.core.json#/definitions/oic.core"},
      {"$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},
      {"$ref": "#/definitions/oic.r.bmi"}
    ],
    "required": ["bmi"]
}
```

```json
example: |
```
6.90.5 Property Definition

Table 185 BMI Property Definitions

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>bmi</td>
<td>number</td>
<td>yes</td>
<td>Read Only</td>
<td>Body Mass Index (BMI) in kg/m^2</td>
</tr>
</tbody>
</table>

6.90.6 CRUDN behaviour

Table 186 BMI CRUDN operations

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/BMIResURI</td>
<td></td>
<td>get</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

6.91 Body Fat

6.91.1 Introduction

This resource describes the properties associated with a person's Body fat. The unit is a single value that is one of kg, lb or %. If the unit Property is missing the default is kilograms [kg]. The bodyfat and unit Properties are read-only values that are provided by the server. When range (from oic.r.baseresource) is omitted the default is 0 to +MAXFLOAT.

6.91.2 Example URI

/BodyFatResURI

6.91.3 Resource Type

The resource type (rt) is defined as: oic.r.body.fat.

6.91.4 RAML Definition

```rml
%RAML 0.8

title: OICBodyFat
version: v1.1.0-20160519
traits:
- interface:
  queryParameters:
    if:
      enum: ["oic.if.s", "oic.if.baseline"]

/BodyFatResURI:

description: |
  This resource describes the properties associated with a person's Body fat.
  The unit is a single value that is one of kg, lb or %.
  If the unit Property is missing the default is kilograms [kg].
  The bodyfat and unit Properties are read-only values that are provided by the server.
  When range (from oic.r.baseresource) is omitted the default is 0 to +MAXFLOAT.

  is: ['interface']

get:
  description: |
  Retrieves Body fat of an object.

responses:
  200: ```
**Property Definition**

### Table 187 Body Fat Property Definitions

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>units</td>
<td>string</td>
<td></td>
<td>Read Only</td>
<td>Body fat units</td>
</tr>
<tr>
<td>bodyfat</td>
<td>number</td>
<td>yes</td>
<td>Read Only</td>
<td>Body fat</td>
</tr>
</tbody>
</table>

**CRUDN behaviour**

### Table 188 Body Fat CRUDN operations

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/BodyFatResURI</td>
<td></td>
<td>get</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

6.92 Body Fat Free Mass

#### 6.92.1 Introduction

This resource describes the properties associated with a person's Body fat free mass. The unit is a single value that is one of kg, lb or %. If the unit Property is missing the default is kilograms [kg].
The ffm and unit Properties are read-only values that are provided by the server. When range (from oic.r.baseresource) is omitted the default is 0 to +MAXFLOAT.

### 6.92.2 Example URI
/BodyFatFreeMassResURI

### 6.92.3 Resource Type

The resource type (rt) is defined as: oic.r.body.ffm.

### 6.92.4 RAML Definition

```raml
#%RAML 0.8
title: OICBodyFatFreeMass
version: v1.1.0-20160519
traits:
  - interface :
    queryParameters:
      if:
        enum: ["oic.if.s", "oic.if.baseline"]

/BodyFatFreeMassResURI:

description: |
This resource describes the properties associated with a person's Body fat free mass.
The unit is a single value that is one of kg, lb or %.
If the unit Property is missing the default is kilograms [kg].
The ffm and unit Properties are read-only values that are provided by the server.
When range (from oic.r.baseresource) is omitted the default is 0 to +MAXFLOAT.

is : ['interface']

get:

description: |
Retrieves Body fat free mass of an object.

responses :
  200:
    body:
      application/json:
        schema: |
          {
            "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.body.ffm.json#",
            "$schema": "http://json-schema.org/draft-04/schema#",
            "description": "Copyright (c) 2018 Open Connectivity Foundation, Inc. All rights reserved.",
            "title": "Body Fat Free Mass",
            "definitions": {
              "oic.r.body.ffm": {
                "type": "object",
                "properties": {
                  "ffm": {
                    "type": "number",
                    "minimum": 0,
                    "readOnly": true,
                    "description": "Body fat free mass."
                  },
                  "units": {
                    "type": "string",
                    "readOnly": true,
                    "enum": ["kg", "lb", "%"],
                    "description": "Body fat free mass units"
                  }
                }
              }
            }
          }
```
Property Definition

Table 189 Body Fat Free Mass Property Definitions

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>units</td>
<td>string</td>
<td></td>
<td>Read Only</td>
<td>Body fat free mass units</td>
</tr>
<tr>
<td>ffm</td>
<td>number</td>
<td>yes</td>
<td>Read Only</td>
<td>Body fat free mass.</td>
</tr>
</tbody>
</table>

CRUDN behaviour

Table 190 Body Fat Free Mass CRUDN operations

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/BodyFatFreeMassResURI</td>
<td></td>
<td>get</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

6.93  Body Location

6.93.1  Introduction

This resource describes the properties associated with Body location of a person. The block Property is a read-only value that is provided by the server.

6.93.2  Example URI

/BodyLocationResURI

6.93.3  Resource Type

The resource type (rt) is defined as: oic.r.body.location.

6.93.4  RAML Definition

```yaml
%%RAML 0.8
title: OICBodyLocation
version: v1.1.0-20160519
traits:
- interface:
  queryParameters:
    if:
      enum: ["oic.if.s", "oic.if.baseline"]
```

```
```

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This resource describes the properties associated with Body location of a person. The bloc Property is a read-only value that is provided by the server.

```
is : ['interface']
get:

description: |
  Retrieves Body location of a person.

responses:
  200:
    body:
      application/json:
        schema: |
          |
"id":
http://openinterconnect.org/iotdatamodels/schemas/oic.r.body.location.json#",
"$schema": "http://json-schema.org/draft-04/schema#",
"description": "Copyright (c) 2018 Open Connectivity Foundation, Inc. All rights reserved.",
"title": "Body Location",
"definitions": {
  "oic.r.body.location": {
    "type": "object",
    "properties": {
      "bloc": {
        "type": "string",
        "enum": ["axillary", "body", "ear", "finger", "gitract", "mouth", "rectum",
                  "toe", "tympanum"],
        "readOnly": true,
        "description": "A list of all potential body locations"
      }
    }
  }
},
"type": "object",
"allOf": [
  {"$ref": "oic.core.json#/definitions/oic.core"},
  {"$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},
  {"$ref": "#/definitions/oic.r.body.location"}
]

example: |
  |
  |
"rt": ["oic.r.body.location"],
"id": "unique_example_id",
"bloc": "axillary"

```

### 6.93.5 Property Definition

**Table 191 Body Location Property Definitions**

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>bloc</td>
<td>string</td>
<td></td>
<td>Read Only</td>
<td>A list of all potential body locations</td>
</tr>
</tbody>
</table>

### 6.93.6 CRUDN behaviour

**Table 192 Body Location CRUDN operations**

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
</table>
6.94 Body Location Temperature

6.94.1 Introduction
This resource describes the properties associated with Body location for temperature measurement of a person. The bloc Property is a read-only value that is provided by the server.

6.94.2 Example URI
/BodyLocationTemperatureResURI

6.94.3 Resource Type
The resource type (rt) is defined as: oic.r.body.location.temperature.

6.94.4 RAML Definition
```RAML
#%RAML 0.8

title: OICBodyLocationTemperature
version: v1.0-20160519

traits:
- interface:
  queryParameters:
    if:
      enum: ["oic.if.s", "oic.if.baseline"]

/BodyLocationTemperatureResURI:
  description: |
  This resource describes the properties associated with Body location for temperature measurement of a person.
  The bloc Property is a read-only value that is provided by the server.
  is: ['interface']
  get:
    description: |
    Retrieves Body location for temperature measurement of a person.

  responses:
  200:
    body:
      application/json:
        schema: |
```

6.94.5 Property Definition

Table 193 Body Location Temperature Property Definitions

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>bloc</td>
<td>string</td>
<td>yes</td>
<td>Read Only</td>
<td>A list specific to temperature site</td>
</tr>
</tbody>
</table>

6.94.6 CRUDN behaviour

Table 194 Body Location Temperature CRUDN operations

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/BodyLocationTemperatureResURI</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

6.95 Body Scale Atomic Measurement Baseline Representation

6.95.1 Introduction

This resource describes the properties associated with Body Scale. The resource is an atomic measurement of Weight (oic.r.weight), Body Mass Index (BMI) (oic.r.bmi), Height (oic.r.height), Body Fat (oic.r.body.fat), Body Water (oic.r.body.water), Body Soft Lean Mass (oic.r.body.slm), Body Fat Free Mass (oic.r.body.ffm), Observed time (oic.r.time.stamp), and User ID (oic.r.userid).

6.95.2 Example URI

/BodyScaleAMResURI

6.95.3 Resource Type

The resource type (rt) is defined as: oic.r.bodyscale-am.
//BodyScaleAMResURI?if=oic.if.baseline:

description: |
This resource describes the properties associated with Body Scale.
The resource is an atomic measurement of Weight (oic.r.weight), Body Mass Index (BMI)
(oic.r.bmi), Height (oic.r.height), Body Fat (oic.r.body.fat), Body Water (oic.r.body.water), Body
Soft Lean Mass (oic.r.body.slm), Body Fat Free Mass (oic.r.body.ffm), Observed time
(oic.r.time.stamp), and User ID (oic.r.userid).

is: ['interface-baseline']

get:

description: |
Retrieves the current weight.

responses:

200:

body:
application/json:

  schema: |

    {
      "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.bodyscale-am.json#",
      "$schema": "http://json-schema.org/draft-04/schema#",
      "description": "Copyright © 2018 Open Connectivity Foundation, Inc. All rights
reserved.",
      "title": "Body Scale Atomic Measurement",
      "definitions": {
        "oic.r.bodyscale-am": {
          "type": "object",
          "properties": {
            "rt": {
              "type": "array",
              "minItems": 2,
              "maxItems": 2,
              "uniqueItems": true,
              "items": {  
                "enum": ["oic.r.bodyscale-am", "oic.wk.atomicmeasurement"]
              }
            },
            "rts": {
              "type": "array",
              "minItems": 1,
              "uniqueItems": true,
              "items": {  
                "enum": ["oic.r.weight", "oic.r.bmi", "oic.r.height", "oic.r.body.fat",
                "oic.r.body.water", "oic.r.body.slm", "oic.r.body.ffm", "oic.r.time.stamp", "oic.r.userid"]
              }
            },
            "rts-m": {
              "type": "array",
              "minItems": 1,
              "maxItems": 1,
              "uniqueItems": true,
              "items": {  
                "enum": ["oic.r.weight"]
              }
            }
          }
        }
      }
    }
atomic measurement.

```
"type": "object",
"allOf": [
  {"$ref": "oic.core.json#/definitions/oic.core"},
  {"$ref": "oic.collection-schema.json#/definitions/oic.collection.properties"},
  {"$ref": "oic.collection-schema.json#/definitions/oic.collection.links.arrayoflinks"},
  {"$ref": "#/definitions/oic.r.bodyscale-am"}
],
"required": ["rts-m"]
}
```

example:

```
{
  "rt": ["oic.r.bodyscale-am", "oic.wk.atomicmeasurement"],
  "if": ["oic.if.b", "oic.if.ll", "oic.if.baseline"],
  "rts": ["oic.r.weight", "oic.r.bmi"],
  "rts-m": ["oic.r.weight"],
  "links": [
    {
      "href": "/myWeightResURI",
      "rt": ["oic.r.weight"],
      "if": ["oic.if.s", "oic.if.baseline"]
    },
    {
      "href": "/myBMIResURI",
      "rt": ["oic.r.bmi"],
      "if": ["oic.if.s", "oic.if.baseline"]
    }
  ]
}
```

### 6.95.5 Property Definition

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>rt</td>
<td>array: see schema</td>
<td></td>
<td></td>
<td>This contains all mandatory resource types for this atomic measurement.</td>
</tr>
<tr>
<td>rts-m</td>
<td>array: see schema</td>
<td>yes</td>
<td></td>
<td>This contains all possible resource types for this atomic measurement.</td>
</tr>
</tbody>
</table>

### 6.95.6 CRUDN behaviour

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/BodyScaleAMResURI</td>
<td>get</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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6.96  BodySoftLeanMass

6.96.1  Introduction

This resource describes the properties associated with a person's Body soft lean mass. The unit is a single value that is one of kg, lb or %. If the unit Property is missing the default is kilograms [kg]. The slm and unit Properties are read-only values that are provided by the server. When range (from oic.r.baseresource) is omitted the default is 0 to +MAXFLOAT.

6.96.2  Example URI

/BodySoftLeanMassResURI

6.96.3  Resource Type

The resource type (rt) is defined as: oic.r.body.slm.

6.96.4  RAML Definition

```text
#%RAML 0.8
title: OICBodySoftLeanMass
version: v1.1.0-20160519
traits:
  - interface:
      queryParameters:
        if:
          enum: ["oic.if.s", "oic.if.baseline"]

/BodySoftLeanMassResURI:
  description: |
  This resource describes the properties associated with a person's Body soft lean mass.
  The unit is a single value that is one of kg, lb or %.
  If the unit Property is missing the default is kilograms [kg].
  The slm and unit Properties are read-only values that are provided by the server.
  When range (from oic.r.baseresource) is omitted the default is 0 to +MAXFLOAT.

is: ['interface']
get:
  description: |
  Retrieves Body soft lean mass of an object.

responses:
  200:
    body:
      application/json:
        schema: |
          {"id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.body.slm.json#", "$schema": "http://json-schema.org/draft-04/schema#", "description": "Copyright (c) 2018 Open Connectivity Foundation, Inc. All rights reserved.", "title": "Body Soft Lean Mass", "definitions": { "oic.r.body.slm": { "type": "object", "properties": { "slm": { "type": "number", "minimum": 0, "readOnly": true, "description": "Body soft lean mass." }, "units": { "type": "string" } } } } }```

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**6.96.5 Property Definition**

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>units</td>
<td>string</td>
<td></td>
<td>Read Only</td>
<td>Body soft lean mass units</td>
</tr>
<tr>
<td>slm</td>
<td>number</td>
<td>yes</td>
<td>Read Only</td>
<td>Body soft lean mass.</td>
</tr>
</tbody>
</table>

**6.96.6 CRUDN behaviour**

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/BodySoftLeanMassResURI</td>
<td></td>
<td>get</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**6.97 Body Thermometer Atomic Measurement Baseline Representation**

**6.97.1 Introduction**

This resource describes the properties associated with body thermometer. The resource is an atomic measurement of temperature (oic.r.temperature), body location for temperature (oic.r.body.location.temperature), observed time (oic.r.time.stamp), and user ID (oic.r.userid).

**6.97.2 Example URI**

/BodyThermometerAMResURI

**6.97.3 Resource Type**

The resource type (rt) is defined as: oic.r.bodythermometer-am.

**6.97.4 RAML Definition**

```raml
#%RAML 0.8
title: OICBodyThermometerAM
version: v1.1.0-20160519
traits:
  - interface-ll:
    queryParameters:
      if:
        enum: ["oic.if.ll"]
```
- interface-b:
  queryParameters:
  if:
    enum: ["oic.if.b"]

- interface-baseline:
  queryParameters:
  if:
    enum: ["oic.if.baseline"]

- interface-all:
  queryParameters:
  if:
    enum: ["oic.if.b", "oic.if.ll", "oic.if.baseline"]

/BODYTHERMOMETERAMResURI?if=oic.if.baseline:

description: |
This resource describes the properties associated with body thermometer.
The resource is an atomic measurement of temperature (oic.r.temperature), body location for temperature (oic.r.body.location.temperature), observed time (oic.r.time.stamp), and user ID (oic.r.userid).

is: ["interface-baseline"]

get:

description: |
Retrieves the current body temperature.

responses:

  200:
  body:
    application/json:
      schema: |
        {
          "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.bodythermometer-am.json#",
          "$schema": "http://json-schema.org/draft-04/schema#",
          "description": "Copyright (c) 2018 Open Connectivity Foundation, Inc. All rights reserved.",
          "title": "Body Thermometer Atomic Measurement",
          "definitions": { "oic.r.bodythermometer-am": { "type": "object", "properties": { "rt": { "type": "array", "minItems": 2, "maxItems": 2, "uniqueItems": true, "items": { "enum": ["oic.r.bodythermometer-am", "oic.wk.atomicmeasurement"] } }, "rts": { "type": "array", "minItems": 1, "uniqueItems": true, "items": { "enum": ["oic.r.temperature", "oic.r.body.location.temperature", "oic.r.time.observed", "oic.r.userid"] } }, "description": "This contains all possible resource types for this atomic measurement." } }}, "rts-m": {
"type": "array",
"minItems": 1,
"maxItems": 1,
"uniqueItems": true,
"items": {
  "enum": ["oic.r.temperature"]
},
"description": "This contains all mandatory resource types for this atomic measurement."

example: |

```
{
  "rt": ["oic.r.bodythermometer-am", "oic.wk.atomicmeasurement"],
  "if": ["oic.if.b", "oic.if.ll", "oic.if.baseline"],
  "rts": ["oic.r.temperature", "oic.r.body.location.temperature"],
  "rts-m": ["oic.r.temperature"],
  "links": [
    {
      "href": "/myTemperatureResURI",
      "rt": ["oic.r.temperature"],
      "if": ["oic.if.s", "oic.if.baseline"]
    }
  ]
}
```

### 6.97.5 Property Definition

**Table 199 Body Thermometer Atomic Measurement Baseline Representation Property Definitions**

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>rt</td>
<td>array: see schema</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>rts-m</td>
<td>array: see schema</td>
<td>yes</td>
<td></td>
<td>This contains all mandatory resource types for this atomic measurement.</td>
</tr>
<tr>
<td>rts</td>
<td>array: see schema</td>
<td></td>
<td></td>
<td>This contains all possible resource types for this atomic measurement.</td>
</tr>
</tbody>
</table>
6.97.6 CRUDN behaviour

Table 200 Body Thermometer Atomic Measurement Baseline Representation CRUDN operations

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/BodyThermometerAMResURI</td>
<td>get</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

6.98 Body Water

6.98.1 Introduction

This resource describes the properties associated with a person's Body water. The unit is a single value that is one of kg or lb. If the unit Property is missing the default is kilograms [kg]. The bwater and unit Properties are read-only values that are provided by the server. When range (from oic.r.baseresource) is omitted the default is 0 to +MAXFLOAT.

6.98.2 Example URI

/BODYThermometerResURI

6.98.3 Resource Type

The resource type (rt) is defined as: oic.r.body.water.

6.98.4 RAML Definition

```raml
#%RAML 0.8
title: OICBodyWater
version: v1.1.0-20160519
traits:
  - interface:
    queryParameters:
      if:
        enum: ["oic.if.s", "oic.if.baseline"]
/BODYThermometerResURI:
  description: |
    This resource describes the properties associated with a person's Body water.
    The unit is a single value that is one of kg or lb.
    If the unit Property is missing the default is kilograms [kg].
    The bwater and unit Properties are read-only values that are provided by the server.
    When range (from oic.r.baseresource) is omitted the default is 0 to +MAXFLOAT.
    is : ['interface']
  get:
    description: |
      Retrieves Body water of an object.
    responses:
      200:
        body:
          application/json:
            schema: |
              { "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.body.water.json#", "$schema": "http://json-schema.org/draft-04/schema#", "description": "Copyright (c) 2018 Open Connectivity Foundation, Inc. All rights reserved.", "title": "Body Water", "definitions": { "oic.r.body.water": { "type": "object", "properties": { "id": { "type": "string", "description": "The unique identifier of the Body water object. This is typically a unique identifier from the server." }, "unit": { "type": "string", "description": "The unit of measurement for the Body water. The standard unit is kg, but can be lb. If the unit is not specified, the default is kg." }, "bwater": { "type": "number", "description": "The body water value. The default range is 0 to +MAXFLOAT if not specified." } } } } } } }}
```
"properties": {
  "bwater": {
    "type": "number",
    "minimum": 0,
    "readOnly": true,
    "description": "Body water."
  },
  "units": {
    "type": "string",
    "readOnly": true,
    "enum": ["kg", "lb"],
    "description": "Body water unit"
  }
},
"type": "object",
"allOf": [
  {"$ref": "oic.core.json#/definitions/oic.core"},
  {"$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},
  {"$ref": "#/definitions/oic.r.body.water"}
],
"required": ["bwater"]
}

example: |
{
  "rt": ["oic.r.body.water"],
  "id": "unique_example_id",
  "bwater": 20,
  "units": "kg"
}

### 6.98.5 Property Definition

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>units</td>
<td>string</td>
<td></td>
<td>Read Only</td>
<td>Body water unit.</td>
</tr>
<tr>
<td>bwater</td>
<td>number</td>
<td>yes</td>
<td>Read Only</td>
<td>Body water.</td>
</tr>
</tbody>
</table>

### 6.98.6 CRUDN behaviour

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/BodyWaterResURI</td>
<td>get</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### 6.99 Glucose

#### 6.99.1 Introduction

This resource describes the properties associated with a person's Glucose level. The unit is a single value that is one of mg/dL, mmol/L. If the unit Property is missing the default is milligrams per decilitre [mg/dL]. The glucose and unit Properties are read-only values that are provided by the server. When range (from oic.r.baseresource) is omitted the default is 0 to +MAXFLOAT.

#### 6.99.2 Example URI

/GlucoseResURI

#### 6.99.3 Resource Type

The resource type (rt) is defined as: oic.r.glucose.

#### 6.99.4 RAML Definition

```rml
#%RAML 0.8
```
title: OICGlucose
version: v1.1.0-20160519
traits:
  - interface: 
    queryParameters:
      if:
        enum: ["oic.if.s", "oic.if.baseline"]

/GlucoseResURI: 
  description: | 
  This resource describes the properties associated with a person's Glucose level.
  The unit is a single value that is one of mg/dL, mmol/L.
  If the unit Property is missing the default is milligrams per decilitre [mg/dL].
  The glucose and unit Properties are read-only values that are provided by the server.
  When range (from oic.r.baseresource) is omitted the default is 0 to +MAXFLOAT.

  is: ['interface']

get: 
  description: | 
  Retrieves glucose level of a person.

responses:
  200: 
    body:
      application/json:
        schema: |
          { 
            "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.glucose.json#", 
            "$schema": "http://json-schema.org/draft-04/schema#", 
            "description" : "Copyright (c) 2018 Open Connectivity Foundation, Inc. All rights reserved.", 
            "title": "Glucose", 
            "definitions": { 
              "oic.r.glucose": { 
                "type": "object", 
                "properties": { 
                  "glucose": { 
                    "type": "number", 
                    "minimum": 0, 
                    "readOnly": true, 
                    "description": "A measurement of glucose concentration in the blood"
                  }, 
                  "units": { 
                    "type": "string", 
                    "readOnly": true, 
                    "enum": ["mg/dL", "mmol/L"], 
                    "description": "Glucose unit"
                  }
                }
              }
            }, 
            "type": "object", 
            "allOf": [ 
              {"$ref": "oic.core.json#/definitions/oic.core"}, 
              {"$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"}, 
              {"$ref": "#/definitions/oic.r.glucose"}
            ], 
            "required": ["glucose"]
          }

example: |
6.99.5 Property Definition

Table 203 Glucose Property Definitions

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>units</td>
<td>string</td>
<td></td>
<td>Read Only</td>
<td>Glucose unit</td>
</tr>
<tr>
<td>glucose</td>
<td>number</td>
<td>yes</td>
<td>Read Only</td>
<td>A measurement of glucose concentration in the blood</td>
</tr>
</tbody>
</table>

6.99.6 CRUDN behaviour

Table 204 Glucose CRUDN operations

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/GlucoseResURI</td>
<td></td>
<td>get</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

6.100 Context Carbohydrates for Glucose Meter

6.100.1 Introduction

This resource describes the properties associated with a context carbohydrates. The carb property has a default unit of grams[g]. The carb and meal properties are read-only values that are provided by the server. When range (from oic.r.baseresource) is omitted the default is 0 to +MAXFLOAT.

6.100.2 Example URI

/glucoseCarbResURI

6.100.3 Resource Type

The resource type (rt) is defined as: oic.r.glucose.carb.

6.100.4 RAML Definition

```RAML
#%RAML 0.8
title: OICGlucoseCarb
version: v1.1.0-20160519
traits:
- interface :
  queryParameters:
    if:
      enum: ["oic.if.s", "oic.if.baseline"]
/GlucoseCarbResURI:
  description: |
    This resource describes the properties associated with a context carbohydrates.
    The carb property has a default unit of grams[g].
    The carb and meal properties are read-only values that are provided by the server.
    When range (from oic.r.baseresource) is omitted the default is 0 to +MAXFLOAT.
    is : ['interface']
    get: |
      Retrieves Context Carbohydrates for Glucose Meter.
```
responses:
200:
body:
application/json:
  schema:
  |
  | { "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.glucose.carb.json#", "$schema": "http://json-schema.org/draft-04/schema#", "description": "Copyright (c) 2018 Open Connectivity Foundation, Inc. All rights reserved.", "title": "Context Carbohydrates for Glucose Meter", "definitions": { "oic.r.glucose.carb": { "type": "object", "properties": { "carb": { "type": "number", "readOnly": true, "description": "The amount of carbohydrates undertaken in grams" }, "meal": { "type": "string", "readOnly": true, "enum": ["breakfast", "lunch", "dinner", "snack", "drink", "supper", "brunch", "undetermined", "other", "no_entry", "no_ingestion"], "description": "Recorded time of carbohydrates intake" } }, }, "type": "object", "allOf": [ {"$ref": "oic.core.json#/definitions/oic.core"}, {"$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"}, {"$ref": "#/definitions/oic.r.glucose.carb"} ], "required": ["carb", "meal"] }
  }
example:
|
| { "rt": ["oic.r.glucose.carb"], "id": "unique_example_id", "carb": 100, "meal": "breakfast" }

### 6.100.5 Property Definition

**Table 205 Context Carbohydrates for Glucose Meter Property Definitions**

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>carb</td>
<td>number</td>
<td>yes</td>
<td>Read Only</td>
<td>The amount of carbohydrates undertaken in grams</td>
</tr>
<tr>
<td>meal</td>
<td>string</td>
<td>yes</td>
<td>Read Only</td>
<td>Recorded time of carbohydrates intake</td>
</tr>
</tbody>
</table>
6.100.6 CRUDN behaviour

Table 206 Context Carbohydrates for Glucose Meter CRUDN operations

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/GlucoseCarbResURI</td>
<td></td>
<td>get</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

6.101 Exercise for Glucose Meter

6.101.1 Introduction

This resource describes the properties associated with glucose exercise. The exercise property has a default unit of percentage[%]. The exercise property is a read-only value that is provided by the server.

6.101.2 Example URI

/ExerciseResURI

6.101.3 Resource Type

The resource type (rt) is defined as: oic.r.glucose.exercise.

6.101.4 RAML Definition

```text
#%RAML 0.8
title: OICGlucoseExercise
version: v1.1.0-20160519
traits:
  - interface:
    queryParameters:
      if:
        enum: ["oic.if.s", "oic.if.baseline"]

/ExerciseResURI:
  description: |
  This resource describes the properties associated with glucose exercise.
  The exercise property has a default unit of percentage[%].
  The exercise property is a read-only value that is provided by the server.
  is: ['interface']
  get:
    description: |
    Retrieves the level of exercise undertaken in percentage.
    responses:
      200:
        body:
          application/json:
            schema: |
```

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"readOnly": true,
"minimum": 0,
"maximum": 100,
"description": "The level of exercise undertaken in percentage"
}

example:
{
  "rt": ["oic.r.glucose.exercise"],
  "id": "unique_example_id",
  "exercise": 30
}

### 6.101.5 Property Definition

Table 207 Exercise for Glucose Meter Property Definitions

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>exercise</td>
<td>number</td>
<td>yes</td>
<td>Read Only</td>
<td>The level of exercise undertaken in percentage</td>
</tr>
</tbody>
</table>

### 6.101.6 CRUDN behaviour

Table 208 Exercise for Glucose Meter CRUDN operations

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/ExerciseResURI</td>
<td></td>
<td>get</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### 6.102 Hemoglobin Bound to Glucose A1c Form (HbA1c) for Glucose Meter

#### 6.102.1 Introduction

This resource describes the properties associated with a person's Hba1c level. The unit is a single value that is percentage [%]. The hba1c Property is a read-only value that is provided by the server.

#### 6.102.2 Example URI

/GlucoseHbA1cResURI

#### 6.102.3 Resource Type

The resource type (rt) is defined as: oic.r.glucose.hba1c.

#### 6.102.4 RAML Definition

```rml
#%RAML 0.8
title: OICGlucoseHbA1c
version: v1.1.0-20160519
traits:
  - interface:
    queryParameters:
      if:
        enum: ["oic.if.s", "oic.if.baseline"]
```
This resource describes the properties associated with a person's HbA1c level. The unit is a single value that is percentage [%]. The hba1c Property is a read-only value that is provided by the server.

```json
is : ['interface']

get:

description: |
Retrieves Hemoglobin Bound to Glucose A1c Form (HbA1c) for Glucose Meter.

responses:
200:

body:
application/json:

schema: |

    
"id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.glucose.hba1c.json#",
"$schema": "http://json-schema.org/draft-04/schema#",
"description": "Copyright (c) 2018 Open Connectivity Foundation, Inc. All rights reserved.",
"title": "Hemoglobin Bound to Glucose A1c Form (HbA1c) for Glucose Meter",
"definitions": {
"oic.r.glucose.hba1c": {
"type": "object",
"properties": {
"hba1c": {
"type": "number",
"readOnly": true,
"minimum": 0,
"maximum": 100,
"description": "Current HbA1c measurement in percentage"
}
}
}

example: |

{
"rt": ["oic.r.glucose.hba1c"],
"id": "unique_example_id",
"hba1c": 5
}
```

### 6.102.5 Property Definition

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
</table>

Table 209: Hemoglobin Bound to Glucose A1c Form (HbA1c) for Glucose Meter Property Definitions
6.102.6 CRUDN behaviour

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/GlucoseHbA1cResURI</td>
<td>get</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 210 Hemoglobin Bound to Glucose A1c Form (HbA1c) for Glucose Meter CRUDN operations

6.103 Context Health for Glucose Meter

6.103.1 Introduction

This resource describes the properties associated with context health. The health Property is a read-only value that is provided by the server where minor and major are related to the general health or the level of illness of the person; menses refers to the female menstrual cycle; stress refers to physiological or psychological stress.

6.103.2 Example URI

/GlucoseHealthResURI

6.103.3 Resource Type

The resource type (rt) is defined as: oic.r.glucose.health.

6.103.4 RAML Definition

```rml
#%RAML 0.8

title: OICGlucoseHealth
version: v1.1.0-20160519

traits:
- interface :
  
queryParameters:
  
if: |
  
enum: ["oic.if.s", "oic.if.baseline"]

/GlucoseHealthResURI:

description: |

This resource describes the properties associated with context health.
The health Property is a read-only value that is provided by the server where
minor and major are related to the general health or the level of illness of the person;
menses refers to the female menstrual cycle;
stress refers to physiological or psychological stress.

is: ["interface"]

get:

description: |

Retrieves Context Health for Glucose Meter.

responses :

| 200: |

body: |

application/json: |

schema: |

|

"id": |

"http://openinterconnect.org/iotdatamodels/schemas/oic.r.glucose.health.json#",

"$schema": "http://json-schema.org/draft-04/schema#",
```
"description": "Copyright (c) 2018 Open Connectivity Foundation, Inc. All rights reserved.",
"title": "Context Health for Glucose Meter",
"definitions": {
  "oic.r.glucose.health": {
    "type": "object",
    "properties": {
      "health": {
        "type": "string",
        "readOnly": true,
        "enum": ["minor", "major", "menses", "stress", "none"],
        "description": "The various levels of health a person feels when taking a glucose."
      }
    }
  }
},
"type": "object",
"allOf": [
  {"$ref": "oic.core.json#/definitions/oic.core"},
  {"$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},
  {"$ref": "#/definitions/oic.r.glucose.health"}
],
"required": ["health"
}
}
example: |
{
  "rt": ["oic.r.glucose.health"],
  "id": "unique_example_id",
  "health": "major"
}

### 6.103.6 CRUDN behaviour

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/GlucoseHealthResURI</td>
<td>get</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### 6.104 Context Meal for Glucose Meter

#### 6.104.1 Introduction

This resource describes the properties associated with context meal. Preprandial means pre-meal. Postprandial means post-meal. Fasting meanse the effect of long-term absence of food intake (overnight). The meal Property is a read-only value that is provided by the server.

#### 6.104.2 Example URI

/GlucoseMealResURI

#### 6.104.3 Resource Type

The resource type (rt) is defined as: oic.r.glucose.meal.
# RAML Definition

## title: OICGlucoseMeal

## version: v1.1.0-20160519

### traits:

- interface:
  
    if:
    
      enum: ["oic.if.s", "oic.if.baseline"]

### /GlucoseMealResURI:

    description: |
    
      This resource describes the properties associated with context meal.
      Preprandial means pre-meal.
      Postprandial means post-meal.
      Fasting means the effect of long-term absence of food intake (overnight).
      The meal Property is a read-only value that is provided by the server.

    is: ["interface"]

### get:

    description: |
    
      Retrieves Context Meal for Glucose Meter.

### responses:

    200:

      body:

        application/json:

          schema: |

            {
              "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.glucose.meal.json#",
              "$schema": "http://json-schema.org/draft-04/schema#",
              "description": "Copyright (c) 2018 Open Connectivity Foundation, Inc. All rights reserved.",
              "title": "Context Meal for Glucose Meter",
              "definitions": {
                "oic.r.glucose.meal": {
                  "type": "object",
                  "properties": {
                    "meal": {
                      "type": "string",
                      "readOnly": true,
                      "enum": ["preprandial", "postprandial", "fasting", "bedtime", "casual"],
                      "description": "Time of day when the measurement is taken."
                    }
                  }
                }
              },
              "type": "object",
              "allOf": [
                {"$ref": "oic.core.json#/definitions/oic.core"},
                {"$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},
                {"$ref": "#/definitions/oic.r.glucose.meal"}
              ],
              "required": ["meal"]
            }

          example: |

            {"rt": ["oic.r.glucose.meal"],
             "id": "unique_example_id",
             "meal": "preprandial"}
6.104.5 Property Definition

Table 213 Context Meal for Glucose Meter Property Definitions

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>meal</td>
<td>string</td>
<td>yes</td>
<td>Read Only</td>
<td>Time of day when the measurement is taken.</td>
</tr>
</tbody>
</table>

6.104.6 CRUDN behaviour

Table 214 Context Meal for Glucose Meter CRUDN operations

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/GlucoseMealResURI</td>
<td></td>
<td>get</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

6.105 Context Medication for Glucose Meter

6.105.1 Introduction

This resource describes the properties associated with context medication. The unit is a single value that is one of mg and mL. The medication property has a default unit of milligrams[mg]. The medication, unit and regimen Properties are read-only values that are provided by the server. When range (from oic.r.baseresource) is omitted the default is 0 to +MAXFLOAT.

6.105.2 Example URI

/GlucoseMedicationResURI

6.105.3 Resource Type

The resource type (rt) is defined as: oic.r.glucose.medication.

6.105.4 RAML Definition

```yaml
#%RAML 0.8

title: OICGlucoseMedication
version: v1.1.0-20160519

traits:
- interface:
  queryParameters:
    if:
      enum: ["oic.if.s", "oic.if.baseline"]

/GlucoseMedicationResURI:
  description: |
    This resource describes the properties associated with context medication.
    The unit is a single value that is one of mg and mL.
    The medication property has a default unit of milligrams[mg].
    The medication, unit and regimen Properties are read-only values that are provided by the server.
    When range (from oic.r.baseresource) is omitted the default is 0 to +MAXFLOAT.
    is: ['interface']
  get:
    description: |
    Retrieves Context Medication for Glucose Meter.
    responses:
    200:
```
body:
  application/json:
    schema: |
      |
        "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.glucose.medication.json#",
        "$schema": "http://json-schema.org/draft-04/schema#",
        "description": "Copyright (c) 2018 Open Connectivity Foundation, Inc. All rights reserved.",
        "title": "Context Medication for Glucose Meter",
        "definitions": {
          "oic.r.glucose.medication": {
            "type": "object",
            "properties": {
              "medication": {
                "type": "number",
                "readOnly": true,
                "description": "The level of medication undertaken"
              },
              "units": {
                "type": "string",
                "readOnly": true,
                "enum": ["mg", "mL"],
                "description": "Current exercise movement type measurement"
              },
              "regimen": {
                "type": "string",
                "readOnly": true,
                "enum": ["rapidacting", "shortacting", "intermediateacting", "longacting", "premix"],
                "description": "Medication regimen"
              }
            }
          },
          "allOf": [
            {"$ref": "oic.core.json#/definitions/oic.core"},
            {"$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},
            {"$ref": "#/definitions/oic.r.glucose.medication"}
          ],
          "required": ["medication"]
        }
        "example": |
          |
            "rt": ["oic.r.glucose.medication"],
            "id": "unique_example_id",
            "medication": 100,
            "units": "mg",
            "regimen": "rapidacting"
          }
      }  
    
6.105.5 Property Definition

Table 215 Context Medication for Glucose Meter Property Definitions

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>units</td>
<td>string</td>
<td>Read Only</td>
<td></td>
<td>Current exercise movement type measurement</td>
</tr>
<tr>
<td>regimen</td>
<td>string</td>
<td>Read Only</td>
<td></td>
<td>Medication regimen</td>
</tr>
</tbody>
</table>
### CRUDN behaviour

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/GlucoseMedicationResURI</td>
<td>get</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Table 216 Context Medication for Glucose Meter CRUDN operations

<table>
<thead>
<tr>
<th>Resource</th>
<th>CRUDN behaviour</th>
</tr>
</thead>
<tbody>
<tr>
<td>/GlucoseMedicationResURI</td>
<td>The level of medication undertaken is always read-only.</td>
</tr>
</tbody>
</table>

### 6.106 Glucose Meter Atomic Measurement

#### 6.106.1 Introduction

This resource describes the properties associated with glucose meter. The resource is an atomic measurement of glucose (oic.r.glucose), context carbohydrates (oic.r.glucose.carb), context exercise (oic.r.glucose.exercise), Hemoglobin Bound to Glucose A1c Form (HbA1c) (oic.r.glucose.hba1c), context health (oic.r.glucose.health), context meal (oic.r.glucose.meal), context medication (oic.r.glucose.medication), context sample location (oic.r.glucose.samplelocation), context tester (oic.r.glucose.tester), observed time (oic.r.time.stamp), and user ID (oic.r.userid).

#### 6.106.2 Example URI

/GlucoseMeterAMResURI

#### 6.106.3 Resource Type

The resource type (rt) is defined as: oic.r.glucosemeter-am.

#### 6.106.4 RAML Definition

```raml
#%RAML 0.8
title: OICGlucoseMeterAM
version: v1.1.0-20160519
traits:
  - interface-ll:
      queryParameters:
        if:
          enum: ["oic.if.ll"]
  - interface-b:
      queryParameters:
        if:
          enum: ["oic.if.b"]
  - interface-baseline:
      queryParameters:
        if:
          enum: ["oic.if.baseline"]
  - interface-all:
      queryParameters:
        if:
          enum: ["oic.if.b", "oic.if.ll", "oic.if.baseline"]

/GlucoseMeterAMResURI?if=oic.if.baseline:
  description: |
    This resource describes the properties associated with glucose meter.
    The resource is an atomic measurement of glucose (oic.r.glucose), context carbohydrates
    (oic.r.glucose.carb), context exercise (oic.r.glucose.exercise), Hemoglobin Bound to Glucose A1c
    Form (HbA1c) (oic.r.glucose.hba1c), context health (oic.r.glucose.health), context meal
    (oic.r.glucose.meal), context medication (oic.r.glucose.medication), context sample location
    (oic.r.glucose.samplelocation), context tester (oic.r.glucose.tester), observed time
```
get:

    description: Retrieves the current glucose.

responses:

200:

    body:
        application/json:

        schema:

        
        {
            "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.glucosemeter-am.json",
            "$schema": "http://json-schema.org/draft-04/schema#",
            "description": "Copyright (c) 2018 Open Connectivity Foundation, Inc. All rights reserved.",
            "title": "Glucose Meter Atomic Measurement",
            "definitions": {
                "oic.r.glucosemeter-am": {
                    "type": "object",
                    "properties": {
                        "rt": {
                            "type": "array",
                            "minItems": 2,
                            "maxItems": 2,
                            "uniqueItems": true,
                            "items": {
                                "enum": ["oic.r.glucosemeter-am", "oic.wk.atomicmeasurement"]
                            }
                        },
                        "rts": {
                            "type": "array",
                            "minItems": 1,
                            "uniqueItems": true,
                            "items": {
                                "enum": ["oic.r.glucose", "oic.r.glucose.carb",
                                         "oic.r.glucose.exercise", "oic.r.glucose.hba1c",
                                         "oic.r.glucose.health", "oic.r.glucose.meal",
                                         "oic.r.glucose.medication", "oic.r.glucose.samplelocation",
                                         "oic.r.glucose.tester",
                                         "oic.r.time.observed", "oic.r.userid"]
                            }
                        },
                        "rts-m": {
                            "type": "array",
                            "minItems": 1,
                            "maxItems": 1,
                            "uniqueItems": true,
                            "items": {
                                "enum": ["oic.r.glucose"]
                            }
                        },
                        "description": "This contains all possible resource types for this atomic measurement."
                    },
                    "rts-m": {
                        "type": "array",
                        "minItems": 1,
                        "uniqueItems": true,
                        "items": {
                            "enum": ["oic.r.glucose"]
                        },
                        "description": "This contains all mandatory resource types for this atomic measurement."
                    }
                }
            }
        }


"required": ["rts-m"]

```
example: |
{
    "rt": ["oic.r.glucosemeter-am", "oic.wk.atomicmeasurement"],
    "if": ["oic.if.b", "oic.if.ll", "oic.if.baseline"],
    "rts": ["oic.r.glucose", "oic.r.glucose.hba1c"],
    "rts-m": ["oic.r.glucose"],
    "links": [
        {
            "href": "/myGlucoseResURI",
            "rt": ["oic.r.glucose"],
            "if": ["oic.if.s", "oic.if.baseline"]
        },
        {
            "href": "/myHbA1cResURI",
            "rt": ["oic.r.glucose.hba1c"],
            "if": ["oic.if.s", "oic.if.baseline"]
        }
    ]
}
```
# RAML Definition

```json
6.107.4  title: OICGlucoseSampleLocation
version: v1.1.0-20160519
traits:
  - interface:
    queryParameters:
      if:
        enum: ["oic.if.s", "oic.if.baseline"]

/GlucoseSampleLocationResURI:
  description: |
  This resource describes the properties associated with context Sample Location.
  AST means Alternative Site Test specifying that the location of test performed was from an
  alternative site on the body.
  The samplelocation Property is a read-only value that is provided by the server.

is: ['interface']
get:
  description: |
  Retrieves Context Sample Location for Glucose Meter.

responses:
  200:
    body:
      application/json:
        schema: |
        "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.glucose.samplelocation.json#",
        "$schema": "http://json-schema.org/draft-04/schema#",
        "description": "Copyright (c) 2018 Open Connectivity Foundation, Inc. All rights reserved.",
        "title": "Context Sample Location for Glucose Meter",
        "definitions": {
          "oic.r.glucose.samplelocation": {
            "type": "object",
            "properties": {
              "samplelocation": {
                "type": "string",
                "readOnly": true,
                "enum": ["finger", "ast", "earlobe", "ctrlsolution"],
                "description": "The possible blood locations where the blood sample may be taken."
              }
            }
          }
        },
        "type": "object",
        "allOf": [
          {"$ref": "oic.core.json#/definitions/oic.core"},
          {"$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},
          {"$ref": "#/definitions/oic.r.glucose.samplelocation"}
        ],
        "required": ["samplelocation"]
      }
example: |
{  
  "rt": ["oic.r.glucose.samplelocation"],
  "id": "unique_example_id",
}
6.107.5 Property Definition

Table 219 Context Sample Location for Glucose Meter Property Definitions

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>samplelocation</td>
<td>string</td>
<td>yes</td>
<td>Read Only</td>
<td>The possible blood locations where the blood sample may be taken.</td>
</tr>
</tbody>
</table>

6.107.6 CRUDN behaviour

Table 220 Context Sample Location for Glucose Meter CRUDN operations

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/GlucoseSampleLocationResURI</td>
<td>get</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

6.108 Context Tester for Glucose Meter

6.108.1 Introduction

This resource describes the properties associated with context Tester. The tester Property is a read-only value that is provided by the server where especially hcp stands for HealthCare Professional.

6.108.2 Example URI

/GlucoseTesterResURI

6.108.3 Resource Type

The resource type (rt) is defined as: oic.r.glucoseTester.

6.108.4 RAML Definition

```
#%RAML 0.8

title: OICGlucoseTester
version: v1.1.0-20160519

traits:
  - interface :
    queryParameters:
      if:
        enum: ["oic.if.s", "oic.if.baseline"]

/GlucoseTesterResURI:
  description: |
  This resource describes the properties associated with context Tester.
  The tester Property is a read-only value that is provided by the server where especially hcp stands for HealthCare Professional.
  is : ['interface']
  get:
    description: |
    Retrieves Context Tester for Glucose Meter.
    responses :
    200:
      body:
```


application/json:

```json
{
  "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.glucose.tester.json#",
  "$schema": "http://json-schema.org/draft-04/schema#",
  "description": "Copyright (c) 2018 Open Connectivity Foundation, Inc. All rights reserved."
}
```

```json
"title": "Context Tester for Glucose Meter",
"definitions": {
  "oic.r.glucose.tester": {
    "type": "object",
    "properties": {
      "tester": {
        "type": "string",
        "readOnly": true,
        "enum": ["self", "hcp", "lab"],
        "description": "The possible cases of testers who may perform the blood sugar measurement."
      }
    }
  }
}
```

```json
example: {
  "rt": ["oic.r.glucose.Tester"],
  "id": "unique_example_id",
  "tester": "self"
}
```

### 6.108.5 Property Definition

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>tester</td>
<td>string</td>
<td>yes</td>
<td>Read Only</td>
<td>The possible cases of testers who may perform the blood sugar measurement.</td>
</tr>
</tbody>
</table>

### 6.108.6 CRUDN behaviour

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/GlucoseTesterResURI</td>
<td></td>
<td>get</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### 6.109 Optical RFID Station

#### 6.109.1 Introduction

The process represents the stage of the product in the product line which has an optical RFID tag on its body. Event is represented by a Boolean value set to "True" and "False" alarming the issue when additional action is requested for the tagged product. Actionrequest represent necessary...
actions like the isolation of the product, to send the product back to other specific line to modify or fix the issue.

### 6.109.2 Example URI

/ORFIDStationResURI

### 6.109.3 Resource Type

The resource type (rt) is defined as: oic.r.orfid.station.

### 6.109.4 RAML Definition

```yaml
#%RAML 0.8

title: OpticalRFIDSmartfactory Station
version: Version 2018-01-30

traits:
- interface:
  queryParameters:
    if:
      enum: ['oic.if.rw', 'oic.if.baseline']

/ORFIDStationResURI:

description: |
The process represents the stage of the product in the product line which has an optical RFID tag on its body.
Event is represented by a Boolean value set to "True" and "False" alarming the issue when additional action is requested for the tagged product.
Action request represent necessary actions like the isolation of the product, to send the product back to other specific line to modify or fix the issue.

is: ['interface']

get:

description: |
Retrieves the station information from optical augmented RFID reader in smart factory environment.

responses:
200:
  body:
    application/json:
      schema:
        |
        |
        "$schema": "http://json-schema.org/draft-04/schema#",
        "description": "Copyright (c) 2016 Open Connectivity Foundation, Inc. All rights reserved.",
        "properties": {
          "actionrequest": {
            "description": "the action request identifier",
            "type": "integer"
          },
          "event": {
            "description": "when True, the action request should be applied to the product identified by the tagid",
            "type": "boolean"
          },
          "id": {
            "description": "Instance ID of this specific resource",
            "maxLength": 64,
            "readOnly": true,
            "type": "string"
          },
          "if": {
            "description": "The interface set supported by this resource",
```
"items": {
  "enum": [
    "oic.if.baseline",
    "oic.if.ll",
    "oic.if.b",
    "oic.if.lb",
    "oic.if.rw",
    "oic.if.r",
    "oic.if.a",
    "oic.if.s"
  ],
  "type": "string"
},
"minItems": 1,
"readOnly": true,
"type": "array"
},
"n": {
  "description": "Friendly name of the resource",
  "maxLength": 64,
  "readOnly": true,
  "type": "string"
},
"precision": {
  "description": "Accuracy granularity of the exposed value",
  "readOnly": true,
  "type": "number"
},
"process": {
  "description": "the process step that is being performed at this station",
  "readOnly": true,
  "type": "integer"
},
"range": {
  "description": "The valid range for the value Property",
  "items": {
    "anyOf": [
      {
        "type": "number"
      },
      {
        "type": "integer"
      }
    ]
  },
  "maxItems": 2,
  "minItems": 2,
  "readOnly": true,
  "type": "array"
},
"rt": {
  "description": "Resource Type",
  "items": {
    "maxLength": 64,
    "type": "string"
  },
  "minItems": 1,
  "readOnly": true,
  "type": "array"
},
"step": {
  "anyOf": [
    {
      "type": "integer"
    },
    {
      "type": "number"
    }
  ],
  "description": "Step value across the defined range",
  "readOnly": true
"value": {
  "anyOf": [
    { "type": "array" },
    { "type": "string" },
    { "type": "boolean" },
    { "type": "integer" },
    { "type": "number" },
    { "type": "object" }
  ],
  "description": "The value sensed or actuated by this Resource"
},
"required": [
  "event",
  "actionrequest"
],
"title": "ORFID (auto merged)",
"type": "object"
}

example: |
{
  "rt":           ["oic.r.orfid.station"],
  "id":           "unique_example_id",
  "process":      17,
  "event":        true,
  "actionrequest": 2
}

post:

description: |
  Sets necessary action in accordance with Tag Information

body: application/json:

  schema: |
    {
      "$schema": "http://json-schema.org/draft-04/schema#",
      "description": "Copyright (c) 2016 Open Connectivity Foundation, Inc. All rights reserved.",
      "properties": {
        "actionrequest": {
          "description": "the action request identifier",
          "type": "integer"
        },
        "event": {
          "description": "When True, the action request should be applied to the product identified by the tagid",
          "type": "boolean"
        },
        "id": {
          "description": "Instance ID of this specific resource",
          "maxLength": 64,
          "readOnly": true,
          "type": "string")
      },
      "required": [
        "actionrequest",
        "event"
      ]
    }
"type": "string"
},
"if": {
  "description": "The interface set supported by this resource",
  "items": {
    "enum": [
      "oic.if.baseline",
      "oic.if.ll",
      "oic.if.hl",
      "oic.if.lb",
      "oic.if.rw",
      "oic.if.r",
      "oic.if.a",
      "oic.if.s"
    ],
    "type": "string"
  },
  "minItems": 1,
  "readOnly": true,
  "type": "array"
},
"n": {
  "description": "Friendly name of the resource",
  "maxLength": 64,
  "readOnly": true,
  "type": "string"
},
"precision": {
  "description": "Accuracy granularity of the exposed value",
  "readOnly": true,
  "type": "number"
},
"process": {
  "description": "the process step that is being performed at this station",
  "readOnly": true,
  "type": "integer"
},
"range": {
  "description": "The valid range for the value Property",
  "items": {
    "anyOf": [
      {
        "type": "number"
      },
      {
        "type": "integer"
      }
    ],
    "maxItems": 2,
    "minItems": 2,
    "readOnly": true,
    "type": "array"
  },
  "rt": {
    "description": "Resource Type",
    "items": {
      "maxLength": 64,
      "type": "string"
    },
    "minItems": 1,
    "readOnly": true,
    "type": "array"
  },
  "step": {
    "anyOf": [
      {
        "type": "integer"
      },
      {
        "type": "number"
      }
    ],
    "maxItems": 2,
    "minItems": 2,
    "readOnly": true,
    "type": "array"
  },
  "type": "string"}
"description": "Step value across the defined range",
"readOnly": true
},
"value": {
"anyOf": [
  {
    "type": "array"
  },
  {
    "type": "string"
  },
  {
    "type": "boolean"
  },
  {
    "type": "integer"
  },
  {
    "type": "number"
  },
  {
    "type": "object"
  }
],
"description": "The value sensed or actuated by this Resource"
},

"required": [
  "event",
  "actionrequest"
],
"title": "ORFID (auto merged)",
"type": "object"
}
example: |
{
  "event": false,
  "actionrequest": 0
}

responses:
200:
  body:
    application/json:
      schema: |
        |
          "$schema": "http://json-schema.org/draft-04/schema#",
        "description": "Copyright (c) 2016 Open Connectivity Foundation, Inc. All rights reserved.",
        "properties": {
          "actionrequest": {
            "description": "the action request identifier",
            "type": "integer"
          },
          "event": {
            "description": "when True, the action request should be applied to the product identified by the tagid",
            "type": "boolean"
          },
          "id": {
            "description": "Instance ID of this specific resource",
            "maxLength": 64,
            "readOnly": true,
            "type": "string"
"if": {
  "description": "The interface set supported by this resource",
  "items": {
    "enum": [
      "oic.if.baseline",
      "oic.if.ll",
      "oic.if.b",
      "oic.if.lb",
      "oic.if.rw",
      "oic.if.r",
      "oic.if.a",
      "oic.if.s"
    ],
    "type": "string"
  },
  "minItems": 1,
  "readOnly": true,
  "type": "array"
},
"n": {
  "description": "Friendly name of the resource",
  "maxLength": 64,
  "readOnly": true,
  "type": "string"
},
"precision": {
  "description": "Accuracy granularity of the exposed value",
  "readOnly": true,
  "type": "number"
},
"process": {
  "description": "the process step that is being performed at this station",
  "readOnly": true,
  "type": "integer"
},
"range": {
  "description": "The valid range for the value Property",
  "items": {
    "anyOf": [
      {
        "type": "number"
      },
      {
        "type": "integer"
      }
    ]
  },
  "maxItems": 2,
  "minItems": 2,
  "readOnly": true,
  "type": "array"
},
"rt": {
  "description": "Resource Type",
  "items": {
    "maxLength": 64,
    "type": "string"
  },
  "minItems": 1,
  "readOnly": true,
  "type": "array"
},
"step": {
  "anyOf": [
    {
      "type": "integer"
    },
    {
      "type": "number"
    }
  ]
}
Property Definition

Table 223 Optical RFID Station Property Definitions

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>rt</td>
<td>array: see schema</td>
<td></td>
<td>Read Only</td>
<td>Resource Type</td>
</tr>
<tr>
<td>step</td>
<td>multiple types: see schema</td>
<td></td>
<td>Read Only</td>
<td>Step value across the defined range</td>
</tr>
<tr>
<td>process</td>
<td>integer</td>
<td></td>
<td>Read Only</td>
<td>the process step that is being performed at this station</td>
</tr>
<tr>
<td>precision</td>
<td>number</td>
<td></td>
<td>Read Only</td>
<td>Accuracy granularity of the exposed value</td>
</tr>
<tr>
<td>value</td>
<td>multiple types: see schema</td>
<td></td>
<td>Read Only</td>
<td>The value sensed or actuated by this Resource</td>
</tr>
<tr>
<td>n</td>
<td>string</td>
<td>Read Only</td>
<td>Friendly name of the resource</td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td></td>
</tr>
<tr>
<td>actionrequest</td>
<td>integer</td>
<td></td>
<td>the action request identifier</td>
<td></td>
</tr>
<tr>
<td>range</td>
<td>array: see schema</td>
<td>Read Only</td>
<td>The valid range for the value Property</td>
<td></td>
</tr>
<tr>
<td>id</td>
<td>string</td>
<td>Read Only</td>
<td>Instance ID of this specific resource</td>
<td></td>
</tr>
<tr>
<td>event</td>
<td>boolean</td>
<td></td>
<td>when True, the action request should be applied to the product identified by the tagid</td>
<td></td>
</tr>
<tr>
<td>if</td>
<td>array: see schema</td>
<td>Read Only</td>
<td>The interface set supported by this resource</td>
<td></td>
</tr>
</tbody>
</table>

6.109.6 CRUDN behaviour

Table 224 Optical RFID Station CRUDN operations

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/ORFIDStationResURI</td>
<td>get</td>
<td>post</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

6.110 Optical RFID Tag

6.110.1 Introduction

The tagid is an integer showing the currently read optical augmented RFID tag's identity information.

6.110.2 Example URI

/ORFIDTagResURI

6.110.3 Resource Type

The resource type (rt) is defined as: oic.r.orfid.tag.

6.110.4 RAML Definition

```plaintext
#%RAML 0.8
title: OpticalRFIDSmartfactory tag
version: Version 2018-01-30
traits:
  - interface:
    queryParameters:
      if:
        enum: ["oic.if.r", "oic.if.baseline"]

/ORFIDTagResURI:

description: |
  The tagid is an integer showing the currently read optical augmented RFID tag's identity information.

is: ['interface']
```
Retrieves the tag information from optical augmented RFID reader in smart factory environment.

responses:
200:
  body: application/json:
    schema:
      properties: {
        id: {
          description: "Instance ID of this specific resource",
          maxLen: 64,
          readOnly: true,
          type: "string"
        },
        if: {
          description: "The interface set supported by this resource",
          items: {
            enum: ["oic.if.baseline","oic.if.ll","oic.if.b","oic.if.lb","oic.if.rf","oic.if.r","oic.if.s"],
            type: "string"
          },
          minItems: 1,
          readOnly: true,
          type: "array"
        },
        n: {
          description: "Friendly name of the resource",
          maxLength: 64,
          readOnly: true,
          type: "string"
        },
        precision: {
          description: "Accuracy granularity of the exposed value",
          readOnly: true,
          type: "number"
        },
        range: {
          description: "The valid range for the value Property",
          items: {
            anyOf: [
              {type: "number"},
              {type: "integer"}
            ],
            maxItems: 2,
            minItems: 2,
            readOnly: true,
            type: "array"
          },
          "reading": 
        }
    }

"description": "true, the tagid is read e.g. being valid. false, the tagid is invalid",
"readOnly": true,
"type": "boolean"},
"rt": {
"description": "Resource Type",
"items": {
"maxLength": 64,
"type": "string"
},
"minItems": 1,
"readOnly": true,
"type": "array"},
"step": {
"anyOf": [
{ "type": "integer" },
{ "type": "number" }
],
"description": "Step value across the defined range",
"readOnly": true
},
"tagid": {
"description": "the tag read by the reader",
"readOnly": true,
"type": "integer"
},
"value": {
"anyOf": [
{ "type": "array" },
{ "type": "string" },
{ "type": "boolean" },
{ "type": "integer" },
{ "type": "number" },
{ "type": "object" }
],
"description": "The value sensed or actuated by this Resource"
},
"required": [
"tagid",
"reading"
],
"title": "ORFID (auto merged)",
"type": "object"
}

example: |

{ "rt": ["oic.r.orfid.tag"],
"id": "unique_example_id",
"tagid": 10965742,
"reading": true
### 6.110.5 Property Definition

#### Table 225 Optical RFID Tag Property Definitions

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>rt</td>
<td>array: see schema</td>
<td></td>
<td>Read Only</td>
<td>Resource Type</td>
</tr>
<tr>
<td>tagid</td>
<td>integer</td>
<td></td>
<td>Read Only</td>
<td>the tag read by the reader</td>
</tr>
<tr>
<td>precision</td>
<td>number</td>
<td></td>
<td>Read Only</td>
<td>Accuracy granularity of the exposed value</td>
</tr>
<tr>
<td>value</td>
<td>multiple types: see schema</td>
<td></td>
<td>Read Only</td>
<td>The value sensed or actuated by this Resource</td>
</tr>
<tr>
<td>n</td>
<td>string</td>
<td></td>
<td>Read Only</td>
<td>Friendly name of the resource</td>
</tr>
<tr>
<td>range</td>
<td>array: see schema</td>
<td></td>
<td>Read Only</td>
<td>The valid range for the value Property</td>
</tr>
<tr>
<td>step</td>
<td>multiple types: see schema</td>
<td></td>
<td>Read Only</td>
<td>Step value across the defined range</td>
</tr>
<tr>
<td>reading</td>
<td>boolean</td>
<td></td>
<td>Read Only</td>
<td>true, the tagid is read e.g. being valid. false, the tagid is invalid</td>
</tr>
<tr>
<td>id</td>
<td>string</td>
<td></td>
<td>Read Only</td>
<td>Instance ID of this specific resource</td>
</tr>
<tr>
<td>if</td>
<td>array: see schema</td>
<td></td>
<td>Read Only</td>
<td>The interface set supported by this resource</td>
</tr>
</tbody>
</table>

### 6.110.6 CRUDN behaviour

#### Table 226 Optical RFID Tag CRUDN operations

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/ORFIDTagResURI</td>
<td>get</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### 6.111 Power Source

#### 6.111.1 Introduction

This resource list the available power sources for the device. The list is read only and is informative only. If there is more than 1 power sources active, use multiple resources to indicate the active power sources.

#### 6.111.2 Example URI

/PowerResourcesExampleResourceURI

#### 6.111.3 Resource Type

The resource type (rt) is defined as: oic.r.powersource.
# RAML Definition

## PowerSources

- **Title:** PowerSources
- **Version:** 0.1

 traits:

  - interface:
    
    queryParameters:
    
    if:
    
    enum: ["oic.if.r", "oic.if.baseline"]

/Pow...ExampleResourceURI:

  description: |
  This resource list the available power sources for the device.
  The list is read only and is informative only.
  If there is more than 1 power sources active, use multiple resources
to indicate the active power sources.

  is : ['interface']

get:

  description: |
  Retrieves the list of available power sources.
  if the power source is unknown use the value "unknown".

  responses :
  200:

  body:
    application/json:

      schema: |

        {
          "id": "http://openinterconnect.org/schemas/powerSource#",
          "$schema": "http://json-schema.org/draft-04/schema#",
          "description": "Copyright (c) 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
          "title": "schema for powersource",
          "definitions": {
            "oic.r.powerSource": {
              "type": "object",
              "properties": {
                "powerSources": {
                  "type": "array",
                  "items": {
                    "type": "string",
                    "enum": ["unknown", "DC power", "Internal Battery", "External Battery", "Power over Ethernet", "USB", "AC (Mains) Power", "Solar"],
                    "uniqueItems": true,
                    "minItems": 1
                  }
                }
              }
            }
          },
          "type": "object",
          "allOf": [
            {"$ref": "oic.core.json#/definitions/oic.core"},
            {"$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"}
          ]
        }
Example:

```json
{
  "rt": ["oic.r.powerSource"],
  "id": "unique_example_id",
  "powerSources": [
    "DC power",
    "Internal Battery",
    "External Battery",
    "Power over Ethernet",
    "USB",
    "AC (Mains) Power",
    "Solar"
  ]
}
```

### 6.111.5 Property Definition

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>powerSources</td>
<td>array: see schema</td>
<td>yes</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### 6.111.6 CRUDN behaviour

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/PowerResourcesExampleResourceURI</td>
<td>get</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### 6.112 Print Queue

#### 6.112.1 Introduction

This resource describes the items in a Printer Queue. The URI and status are read only items that cannot be changed through this resource.

#### 6.112.2 Example URI

```
/PrintQueueResURI
```

#### 6.112.3 Resource Type

The resource type (rt) is defined as: oic.r.printer.queue.

#### 6.112.4 RAML Definition

```yaml
#%RAML 0.8
title: PrintQueue
version: v1.1.0-20180115
traits:
  - interface:
      queryParameters:
        if:
          enum: ["oic.if.r", "oic.if.baseline"]

/PrintQueueResURI:
  description: |
  This resource describes the items in a Printer Queue
  The URI and status are read only items that cannot be changed through this resource.
  is: ['interface']
```
get:

description: |
Retrieves the current Print Queue.

responses:
200:
body:
application/json:
schema: |

"id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.printqueue.json#",
"$schema": "http://json-schema.org/draft-04/schema#",
"description": "Copyright (c) 2018 Open Connectivity Foundation, Inc. All rights reserved.",
"title": "Print Queue",
"definitions": {
  "oic.r.print.queueitem": {
    "type": "object",
    "properties": {
      "uri": {
        "type": "string",
        "format": "uri",
        "maxLength": 256,
        "description": "The URI of the queue item.",
        "readOnly": true
      },
      "status": {
        "type": "string",
        "enum": [
          "Printing",
          "Pending",
          "Paused",
          "Error",
          "Unknown"
        ],
        "description": "The status of the queue item.",
        "readOnly": true
      }
    },
    "required": [ "uri", "status" ]
  },
  "oic.r.printer.queue": {
    "type": "object",
    "properties": {
      "queue": {
        "type": "array",
        "description": "The array of queue items for the printer.",
        "items": {
          "$ref": "#/definitions/oic.r.print.queueitem"
        },
        "readOnly": true
      }
    }
  }
},
"required": [ "rt", "id" ]

"queue" :

[ {
  "uri" : "10.10.10.10/3dprinter/queueitem/1",
  "status" : "Printing"
},
{ 
  "uri" : "10.10.10.10/3dprinter/queueitem/2",
  "status" : "Pending"
}
]

6.112.5 Property Definition

Table 229 Print Queue Property Definitions

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>queue</td>
<td>array: see</td>
<td>yes</td>
<td>Read Only</td>
<td>The array of queue items for the printer.</td>
</tr>
</tbody>
</table>

6.112.6 CRUDN behaviour

Table 230 Print Queue CRUDN operations

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/PrintQueueResURI</td>
<td></td>
<td>get</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

6.113 Pulse Rate

6.113.1 Introduction

This resource describes the properties associated with a person's pulse rate. The unit, which is the default unit, is bpm. The PulseRate and unit Properties are read-only values that are provided by the server. When range (from oic.r.baseresource) is omitted the default is 0 to +MAXFLOAT.

6.113.2 Example URI

/PulseRateResURI

6.113.3 Resource Type

The resource type (rt) is defined as: oic.r.pulserate.

6.113.4 RAML Definition

```raml
#%RAML 0.8

title: OICPulseRate
version: v1.1.0-20160519

traits:
  - interface:
    queryParameters:
      if:
        enum: ["oic.if.s", "oic.if.baseline"]

/PulseRateResURI:
  description: |
  This resource describes the properties associated with a person's pulse rate.
  The unit, which is the default unit, is bpm.
  The PulseRate and unit Properties are read-only values that are provided by the server.
  When range (from oic.r.baseresource) is omitted the default is 0 to +MAXFLOAT.

  is : ["interface"]
```

get:
Retrieves pulse rate of an object.

responses:

200:

body:
application/json:

schema: |

{
  "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.pulserate.json#",
  "$schema": "http://json-schema.org/draft-04/schema#",
  "description": "Copyright (c) 2018 Open Connectivity Foundation, Inc. All rights reserved.",
  "title": "Pulse Rate",
  "definitions": {
    "oic.r.pulserate": {
      "type": "object",
      "properties": {
        "pulserate": {
          "type": "integer",
          "minimum": 0,
          "readOnly": true,
          "description": "Pulse rate in bpm."
        }
      }
    }
  },
  "type": "object",
  "allOf": [
    {"$ref": "oic.core.json#/definitions/oic.core"},
    {"$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},
    {"$ref": "#/definitions/oic.r.pulserate"}
  ],
  "required": ["pulserate"]
}

example: |

{
  "rt": ["oic.r.pulserate"],
  "id": "unique_example_id",
  "pulserate": 80
}

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>pulserate</td>
<td>integer</td>
<td>yes</td>
<td>Read Only</td>
<td>Pulse rate in bpm.</td>
</tr>
</tbody>
</table>

### 6.113.5 Property Definition

#### Table 231 Pulse Rate Property Definitions

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/PulseRateResURI</td>
<td>get</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### 6.114 Sensor Properties

#### 6.114.1 Introduction

This resource describes the properties which guide the reporting of a state change of a Sensor. The silenttime represents the period after which a state change report was sent where the Sensor state change is not reported. The sensitivity represents the level at which the sensor detects a
state change. These values are completely dependent on the type of Sensor and the manufacturer
capability, so no range restrictions are used. The range from the baseresource is only applied to
the sensitivity.

6.114.2 Example URI
/SensorPropsResURI

6.114.3 Resource Type
The resource type (rt) is defined as: oic.r.sensor.props.

6.114.4 RAML Definition
```
#%RAML 0.8
title: OICSensorProps
version: v1.0-20180115
traits:
  - interface :
    queryParameters:
      if:
        enum: ["oic.if.rw", "oic.if.baseline"]
/SensorPropsResURI:
  description: |
    This resource describes the properties which guide the reporting of a state change of a Sensor. 
    The silenttime represents the period after which a state change report was sent where the 
    Sensor state change is not reported. 
    The sensitivity represents the level at which the sensor detects a state change. 
    These values are completely dependent on the type of Sensor and the manufacturer capability, so 
    no range restrictions are used. 
    The range from the baseresource is only applied to the sensitivity.

  is : ['interface']
get:
  description: |
    Gets current Sensor Property values
  responses :
    200:
      body:
        application/json:
          schema: |
          {
            "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.sensor.props.json#",
            "$schema": "http://json-schema.org/draft-04/schema#",
            "description": "Copyright (c) 2018 Open Connectivity Foundation, Inc. All rights
reserved.",
            "title": "Sensor Properties",
            "definitions": {
              "oic.r.sensor.props": {
                "type": "object",
                "properties": {
                  "silenttime": {
                    "type": "integer",
                    "description": "The time in seconds from the previous report that the 
Sensor restrains from sending a state change. This is used to avoid repeated state change reports."
                  },
                  "sensitivity": {
                    "type": "number",
                    "description": "The level of the detection accuracy of the Sensor. This is
used to control the level at which the Sensor detects a state change. Range should be specified per
manufacturer device capabilities."
                  }
              }
            }
          }
```
"type": "object",
"allOf": [
  {
    "$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},
  {
    "$ref": "#/definitions/oic.r.sensor.props"},
  {
    "required": ["silenttime", "sensitivity"]
  }
]
}

example: |

{"rt": ["oic.r.sensor.props"],
"id": "unique_example_id",
"silenttime": 10,
"sensitivity": 20.5,
"range": [0, 100]}

post:

description: |
Sets Sensor Property values

body:
application/json:
schema: |

{
  "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.sensor.props.json#",
  "$schema": "http://json-schema.org/draft-04/schema#",
  "description": "Copyright (c) 2018 Open Connectivity Foundation, Inc. All rights reserved.",
  "title": "Sensor Properties",
  "definitions": {
    "oic.r.sensor.props": {
      "type": "object",
      "properties": {
        "silenttime": {
          "type": "integer",
          "description": "The time in seconds from the previous report that the Sensor restrains from sending a state change. This is used to avoid repeated state change reports."
        },
        "sensitivity": {
          "type": "number",
          "description": "The level of the detection accuracy of the Sensor. This is used to control the level at which the Sensor detects a state change. Range should be specified per manufacturer device capabilities."
        }
      }
    }
  },
  "type": "object",
  "allOf": [
    {
      "$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},
    {
      "$ref": "#/definitions/oic.r.sensor.props"},
    {
      "required": ["silenttime", "sensitivity"]
    }
  ]
}

example: |

{"id": "unique_example_id",
"silenttime": 20,
"sensitivity": 10.75}
```json
responses:
  200:
    body:
      application/json:
        schema: |
        {
          "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.sensor.props.json#",
          "$schema": "http://json-schema.org/draft-04/schema#",
          "description": "Copyright (c) 2018 Open Connectivity Foundation, Inc. All rights reserved.",
          "title": "Sensor Properties",
          "definitions": {
            "oic.r.sensor.props": {
              "type": "object",
              "properties": {
                "silenttime": {
                  "type": "integer",
                  "description": "The time in seconds from the previous report that the Sensor restrains from sending a state change. This is used to avoid repeated state change reports."
                },
                "sensitivity": {
                  "type": "number",
                  "description": "The level of the detection accuracy of the Sensor. This is used to control the level at which the Sensor detects a state change. Range should be specified per manufacturer device capabilities."
                }
              }
            }
          },
          "type": "object",
          "allOf": [
            {"$ref": "oic.baseResource.json#/definitions/oic.r.baseresource"},
            {"$ref": "#/definitions/oic.r.sensor.props"}
          ],
          "required": ["silenttime", "sensitivity"]
        }
        example: |
        {
          "id": "unique_example_id",
          "silenttime": 20,
          "sensitivity": 10.75
        }

6.114.5 Property Definition

Table 233 Sensor Properties Property Definitions

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>silenttime</td>
<td>integer</td>
<td>yes</td>
<td></td>
<td>The time in seconds from the previous report that the Sensor restrains from sending a state change. This is used to avoid repeated state change reports.</td>
</tr>
<tr>
<td>sensitivity</td>
<td>number</td>
<td>yes</td>
<td></td>
<td>The level of the detection accuracy of the Sensor. This is</td>
</tr>
</tbody>
</table>
6.114.6 CRUDN behaviour

Table 234 Sensor Properties CRUDN operations

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/SensorPropsResURI</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>6.115 User ID</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>6.115.1 Introduction</strong></td>
</tr>
<tr>
<td>This resource describes the properties associated with user ID of an OCF client. The userid Property is a single value whose type is one of string, number or integer. The userid Property is a read-only value that is provided by the server.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>6.115.2 Example URI</th>
</tr>
</thead>
<tbody>
<tr>
<td>/UserIDResURI</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>6.115.3 Resource Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>The resource type (rt) is defined as: oic.r.userid.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>6.115.4 RAML Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>#%RAML 0.8</td>
</tr>
<tr>
<td><strong>title:</strong> OICUserID</td>
</tr>
<tr>
<td><strong>version:</strong> v1.1.0-20160519</td>
</tr>
<tr>
<td><strong>traits:</strong></td>
</tr>
<tr>
<td>- <strong>interface:</strong></td>
</tr>
<tr>
<td><strong>queryParameters:</strong></td>
</tr>
<tr>
<td><strong>if:</strong></td>
</tr>
<tr>
<td><strong>enum:</strong> [&quot;oic.if.s&quot;, &quot;oic.if.baseline&quot;]</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>/UserIDResURI:</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>description:</strong></td>
</tr>
<tr>
<td>This resource describes the properties associated with user ID of an OCF client.</td>
</tr>
<tr>
<td>The userid Property is a single value whose type is one of string, number or integer.</td>
</tr>
<tr>
<td>The userid Property is a read-only value that is provided by the server.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>is:</strong> ['interface']</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>get:</strong></td>
</tr>
<tr>
<td><strong>description:</strong></td>
</tr>
<tr>
<td>Retrieves User ID of an object.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>responses:</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>200:</strong></td>
</tr>
<tr>
<td><strong>body:</strong></td>
</tr>
<tr>
<td><strong>application/json:</strong></td>
</tr>
<tr>
<td><strong>schema:</strong></td>
</tr>
</tbody>
</table>
"id": "http://openinterconnect.org/iotdatamodels/schemas/oic.r.userid.json#",
"schema": "http://json-schema.org/draft-04/schema#",
"description": "Copyright (c) 2018 Open Connectivity Foundation, Inc. All rights reserved."
"title": "User ID",
"definitions": {
  "oic.r.userid": {
    "type": "object",
    "properties": {
      "userid": {
        "type": "string",
        "readOnly": true,
        "description": "ID of a patient/user of healthcare devices"
      }"userid"
    }"userid"
  },
  "type": "object",
  "allOf": ["userid"]
},
"required": ["userid"]

example: |
 {"userid": "USER1"

6.115.5 Property Definition

Table 235 User ID Property Definitions

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>userid</td>
<td>string</td>
<td>yes</td>
<td>Read Only</td>
<td>ID of a patient/user of healthcare devices</td>
</tr>
</tbody>
</table>

6.115.6 CRUDN behaviour

Table 236 User ID CRUDN operations

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/UserIDResURI</td>
<td>get</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Annex A Base Resource Schema

A.1 Base Resource Schema

A.1.1 Introduction

This is the base resource schema on which all other resources defined in this specification build. value is the sensed or actuated value of the Resource. precision is the accuracy granularity of the value. range is the range over which value is valid. step is the step function over the defined range if applicable (e.g. always step by '2').

A.1.2 Example URI

/BaseResourceSchemaResURI

A.1.3 Resource Type

The resource type (rt) is defined as: oic.baseresource.

A.1.4 RAML Definition

```json
#%RAML 0.8
title: OICBaseResourceSchema
version: v1.1.0-20160519
traits:
- interface-a :
  queryParameters:
    if:
      enum: ["oic.if.a"]
- interface-baseline :
  queryParameters:
    if:
      enum: ["oic.if.baseline"]
/BaseResourceSchemaResURI:
  description: |
    This is the base resource schema on which all other resources defined in this specification build.
    value is the sensed or actuated value of the Resource.
    precision is the accuracy granularity of the value.
    range is the range over which value is valid.
    step is the step function over the defined range if applicable (e.g. always step by '2').

get:
  description: |
    retrieves the state of the resource.

is : ['interface-baseline']

responses :
  200:
    body:
      application/json:
        schema: |
          
          {
            "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.baseResource.json#",
            "$schema": "http://json-schema.org/draft-04/schema#",
            "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All rights reserved.",
            "title": "Base Resource",
            "definitions": |
```
"oic.r.baseresource": {
  "allOf": [
    { "$ref": "oic.core.json#/definitions/oic.core" },
    { "type": "object",
      "properties": {
        "value": { "anyOf": [
          { "type": "array"},
          { "type": "string"},
          { "type": "boolean"},
          { "type": "integer"},
          { "type": "number"}
        ],
        "description": "The value sensed or actuated by this Resource"
      },
      "precision": { "type": "number",
        "readOnly": true,
        "description": "Accuracy granularity of the exposed value"
      },
      "range": { "type": "array",
        "readOnly": true,
        "description": "The valid range for the value Property",
        "minItems": 2,
        "maxItems": 2,
        "items": { "anyOf": [
          { "type": "number"},
          { "type": "integer"}
        ]}
      },
      "step": { "description": "Step value across the defined range",
        "readOnly": true,
        "anyOf": [
          { "type": "integer"},
          { "type": "number"}
        ]
      }
    },
    { "$ref": "#/definitions/oic.r.baseresource" }
  ]
},
example: |
{}
"rt": ["oic.baseresource"],
"if": ["oic.if.baseline"],
"id": "unique_example_id",
"value": 10.5,
"precision": 0.5,
"range": [0.0,100.0]
}
post: description: |
sets the read-write resource properties

is : ['interface-a']

body:
application/json:
  schema: |
    {
      "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.baseResource.json#",
      "$schema": "http://json-schema.org/draft-04/schema#",
      "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All rights reserved.",
      "title": "Base Resource",
      "definitions": {
        "oic.r.baseresource": {
          "allOf": [
            {
              "$ref": "oic.core.json#/definitions/oic.core"
            },
            {
              "type": "object",
              "properties": {
                "value": {
                  "anyOf": [
                    {"type": "array"},
                    {"type": "string"},
                    {"type": "boolean"},
                    {"type": "integer"},
                    {"type": "number"},
                    {"type": "object"}
                  ],
                  "description": "The value sensed or actuated by this Resource"
                },
                "precision": {
                  "type": "number",
                  "readOnly": true,
                  "description": "Accuracy granularity of the exposed value"
                },
                "range": {
                  "type": "array",
                  "description": "The valid range for the value Property",
                  "readOnly": true,
                  "minItems": 2,
                  "maxItems": 2,
                  "items": {
                    "anyOf": [
                      {"type": "number"},
                      {"type": "integer"}
                    ]
                  }
                },
                "step": {
                  "description": "Step value across the defined range",
                  "readOnly": true,
                  "anyOf": [
                    {"type": "integer"},
                    {"type": "number"}
                  ]
                }
              }
            }]
          }
        }
    }
example: |
{
   "value": 20.5
}

responses:
200:

body:
application/json:

schema: |
{
   
   "id": "http://openinterconnect.org/iotdatamodels/schemas/oic.baseResource.json#",
   "$schema": "http://json-schema.org/draft-04/schema#",
   "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All
   rights reserved.",
   "title": "Base Resource",
   "definitions": {
      "oic.r.baseresource": {
         "allOf": [
            {
               "$ref": "oic.core.json#/definitions/oic.core"
            },
            {
               "type": "object",
               "properties": {
                  "value": {
                     "anyOf": [
                        {"type": "array"},
                        {"type": "string"},
                        {"type": "boolean"},
                        {"type": "integer"},
                        {"type": "number"},
                        {"type": "object"}
                     ],
                     "description": "The value sensed or actuated by this Resource"
                  },
                  "precision": {
                     "type": "number",
                     "readOnly": true,
                     "description": "Accuracy granularity of the exposed value"
                  },
                  "range": {
                     "type": "array",
                     "description": "The valid range for the value Property",
                     "readOnly": true,
                     "minItems": 2,
                     "maxItems": 2,
                     "items": {
                        "anyOf": [
                           {"type": "number"},
                           {"type": "integer"}
                        ]
                     }
                  },
                  "step": {
                     "description": "Step value across the defined range",
                     "readOnly": true,
                     "anyOf": [
                        {"type": "integer"},
                        {"type": "number"}
                     ]
                  }
               }
            }
         ]
      }
   }
}
A.1.5 Property Definition

Table 237 Base Resource Schema Property Definitions

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type description</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>step</td>
<td>multiple types: see schema</td>
<td>Read Only</td>
<td>Step value across the defined range</td>
<td></td>
</tr>
<tr>
<td>range</td>
<td>array: see schema</td>
<td>Read Only</td>
<td>The valid range for the value Property</td>
<td></td>
</tr>
<tr>
<td>precision</td>
<td>number</td>
<td>Read Only</td>
<td>Accuracy granularity of the exposed value</td>
<td></td>
</tr>
<tr>
<td>value</td>
<td>multiple types: see schema</td>
<td></td>
<td>The value sensed or actuated by this Resource</td>
<td></td>
</tr>
<tr>
<td>rt</td>
<td>array: see schema</td>
<td>Read Only</td>
<td>Resource Type</td>
<td></td>
</tr>
<tr>
<td>n</td>
<td>string</td>
<td>Read Only</td>
<td>Friendly name of the resource</td>
<td></td>
</tr>
<tr>
<td>id</td>
<td>string</td>
<td>Read Only</td>
<td>Instance ID of this specific resource</td>
<td></td>
</tr>
<tr>
<td>if</td>
<td>array: see schema</td>
<td>Read Only</td>
<td>The interface set supported by this resource</td>
<td></td>
</tr>
</tbody>
</table>

A.1.6 CRUDN behaviour

Table 238 Base Resource Schema CRUDN operations

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/BaseResourceSchemaResURI</td>
<td>get</td>
<td>post</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

A.1.7 Referenced JSON schemas

A.1.8 oic.core.json

```json
{
  "id": "https://www.openconnectivity.org/ocf-apis/core/schemas/oic.core-schema.json#",
  "$schema": "http://json-schema.org/draft-04/schema#",
  "description": "Copyright (c) 2016, 2017 Open Connectivity Foundation, Inc. All rights reserved.",
  "title": "Core",
  "definitions": {
    "oic.core": {
      "type": "object",
      "properties": {
        "rt": {
          "type": "array",
          "items": {
            "$ref": "#/definitions/oic.r.baseresource"
          }
        }
      }
    }
  }
}```
"type": "string",
"maxLength": 64
},
"minItems": 1,
"readOnly": true,
"description": "Resource Type"
],
"type": "array",
"items": {
"type": "string",
"enum": ["oic.if.baseline", "oic.if.ll", "oic.if.b", "oic.if.lb", "oic.if.rw",
"oic.if.r", "oic.if.a", "oic.if.s"
],
"minItems": 1,
"readOnly": true,
"description": "The interface set supported by this resource"
},
"n": {
"type": "string",
"maxLength": 64,
"readOnly": true,
"description": "Friendly name of the resource"
},
"id": {
"type": "string",
"maxLength": 64,
"readOnly": true,
"description": "Instance ID of this specific resource"
}
}]
"$ref": "#/definitions/oic.core"}
Annex B Swagger 2.0

B.1 3D Printer

B.1.1 Introduction

This resource describes the attributes associated with 3D Printer. The type of 3D printing technology is specified by an enumerated string value. The maximum sizes in mm are included for the x, y, and z dimensions. A designation of whether the device is capable of WAN connectivity is represented in a boolean. The memory capacity is captured in MB.

B.1.2 Example URI

/3DPrinterResURI

B.1.3 Resource Type

The resource type (rt) is defined as: ['oic.r.printer.3d'].

B.1.4 Swagger2.0 Definition

```json
{
    "swagger": "2.0",
    "info": {
        "title": "3D Printer",
        "version": "v1.1.0-20180115",
        "license": {
            "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
            "x-description": "Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.

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        }
    },
    "schemes": ["http"],
    "consumes": ["application/json"],
    "produces": ["application/json"],
    "paths": {
        "/3DPrinterResURI": {
            "get": {
                "description": "This resource describes the attributes associated with 3D Printer. The type of 3D printing technology is specified by an enumerated string value. The maximum sizes in mm are included for the x, y, and z dimensions. A designation of whether the device is capable of WAN connectivity is represented in a boolean. The memory capacity is captured in MB."
            }
        }
    },
    "parameters": [],
    "responses": {
        "200": {
            "description": "",
            "x-example": {
                "rt": ['oic.r.printer.3d'],
                "id": "unique_example_id",
                "3dprinttype": "Digital Light Processing",
                "printsizex": 300.00,
                "printsizey": 200.50,
                "printsizez": 200.50
            }
        }
    }
}
```
"printsizez" : 250.75,
"wanconnected" : false,
"memorysize" : 120.5
}

"schema": { "$ref": "#/definitions/3DPrinter" }

"parameters": {
  "interface": {
    "in": "query",
    "name": "if",
    "type": "string",
    "enum": ["oic.if.r", "oic.if.baseline"]
  }
}

"definitions": {
  "3DPrinter": {
    "properties": {
      "rt": {
        "description": "Resource Type",
        "items": {
          "maxLength": 64,
          "type": "string"
        },
        "minItems": 1,
        "readOnly": true,
        "type": "array"
      },
      "printsizey": {
        "description": "This represents the maximum size of printing object in the direction of Y-axis. The unit is mm.",
        "readOnly": true,
        "type": "number"
      },
      "memorysize": {
        "description": "This value represents the total memory size of the printer. The unit is MB (Mega Bytes)",
        "readOnly": true,
        "type": "number"
      },
      "precision": {
        "description": "Accuracy granularity of the exposed value",
        "readOnly": true,
        "type": "number"
      },
      "value": {
        "anyOf": [
          { "type": "array" },
          { "type": "string" },
          { "type": "boolean" },
          { "type": "integer" }
        ]
      }
    }
  }
}
"range": {
  "description": "The valid range for the value Property",
  "items": {
    "anyOf": [
      { "type": "number" },
      { "type": "integer" }
    ]
  },
  "maxItems": 2,
  "minItems": 2,
  "readOnly": true,
  "type": "array"
},
"step": {
  "anyOf": [
    { "type": "integer" },
    { "type": "number" }
  ],
  "description": "Step value across the defined range",
  "readOnly": true
},
"wanconnected":
"3dprinttype": {
  "description": "The type of 3D printing technology.",
  "enum": [
    "Fused Filament Fabrication",
    "Fused Deposition Modeling",
    "Digital Light Processing",
    "Powder Bed & inkjet head 3D Printing",
    "Photopolymer Jetting Technology",
    "Laminated Object Manufacturing",
    "Stereo lithography Apparatus",
    "Selective Laser Sintering",
    "Unknown"
  ],
  "readOnly": true,
  "type": "string"
},
"n": {
  "description": "Friendly name of the resource",
  "maxLength": 64,
  "readOnly": true,
  "type": "string"
},
"type": "object"}


```json
  "description": "This value indicates the connectivity capability of the 3D printer. If
the value is false, the printer does not have network facility to Wide Area Network such as
internet and GSM. If the value is true, the printer has network connectivity",
"readOnly": true,
"type": "boolean"
},

"printsizex": {
  "description": "This represents the maximum size of printing object in the direction of
X-axis. The unit is mm.",
"readOnly": true,
"type": "number"
},

"id": {
  "description": "Instance ID of this specific resource",
  "maxLength": 64,
  "readOnly": true,
  "type": "string"
},

"printsizez": {
  "description": "This represents the maximum size of printing object in the direction of
Z-axis. The unit is mm.",
  "readOnly": true,
  "type": "number"
},

"if": {
  "description": "The interface set supported by this resource",
  "items": {
    "enum": [
      "oic.if.baseline",
      "oic.if.ll",
      "oic.if.b",
      "oic.if.lb",
      "oic.if.rw",
      "oic.if.r",
      "oic.if.a",
      "oic.if.s"
    ],
    "type": "string"
  },
  "minItems": 1,
  "readOnly": true,
  "type": "array"
}

B.1.5 Property Definition

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>3dprinttype</td>
<td>string</td>
<td>Yes</td>
<td>Read Only</td>
<td></td>
</tr>
<tr>
<td>Property</td>
<td>Type</td>
<td>Default</td>
<td>Required</td>
<td>Access</td>
</tr>
<tr>
<td>--------------</td>
<td>----------</td>
<td>---------</td>
<td>----------</td>
<td>------------</td>
</tr>
<tr>
<td>printsizex</td>
<td>number</td>
<td>Yes</td>
<td>Read Only</td>
<td>This represents the maximum size of printing object in the direction of X-axis. The unit is mm.</td>
</tr>
<tr>
<td>if</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>The interface set supported by this resource</td>
</tr>
<tr>
<td>precision</td>
<td>number</td>
<td>No</td>
<td>Read Only</td>
<td>Accuracy granularity of the exposed value</td>
</tr>
<tr>
<td>wanconnected</td>
<td>boolean</td>
<td>Yes</td>
<td>Read Only</td>
<td>This value indicates the connectivity capability of the 3D printer. If the value is false, the printer does not have network facility to Wide Area Network such as internet and GSM. If the value is true, the printer has network connectivity</td>
</tr>
<tr>
<td>n</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Friendly name of the resource</td>
</tr>
<tr>
<td>printsizex</td>
<td>number</td>
<td>Yes</td>
<td>Read Only</td>
<td>This represents the maximum size of printing object in the direction of Z-axis. The unit is mm.</td>
</tr>
<tr>
<td>printsizex</td>
<td>number</td>
<td>Yes</td>
<td>Read Only</td>
<td>This represents the maximum size of printing object in the direction of Y-axis. The unit is mm.</td>
</tr>
<tr>
<td>Field</td>
<td>Type</td>
<td>Access</td>
<td>Description</td>
<td></td>
</tr>
<tr>
<td>------------</td>
<td>-------------------------------</td>
<td>----------</td>
<td>--------------------------------------------------------------------------------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>memorysize</td>
<td>number</td>
<td>Yes</td>
<td>Read Only</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>This value represents the total memory size of the printer. The unit is MB (Mega Bytes).</td>
<td></td>
</tr>
<tr>
<td>rt</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td></td>
</tr>
<tr>
<td>value</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>Read Write</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>The value sensed or actuated by this Resource</td>
<td></td>
</tr>
<tr>
<td>range</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>The valid range for the value Property</td>
<td></td>
</tr>
<tr>
<td>id</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Instance ID of this specific resource</td>
<td></td>
</tr>
<tr>
<td>step</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>Read Only</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Step value across the defined range</td>
<td></td>
</tr>
</tbody>
</table>

**B.1.6 CRUDN behaviour**

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/3DPrinterResURI</td>
<td>get</td>
<td></td>
<td></td>
<td></td>
<td>observe</td>
</tr>
</tbody>
</table>

**B.2 Acceleration Sensor**

**B.2.1 Introduction**

This resource provides a measure of proper acceleration (g force) as opposed to co-ordinate acceleration (which is dependent on the co-ordinate system and the observer).

The value is a float which describes the acceleration experienced by the object in "g".

**B.2.2 Example URI**

/AccelerationResURI

**B.2.3 Resource Type**

The resource type (rt) is defined as: ['oic.r.sensor.acceleration'].

**B.2.4 Swagger2.0 Definition**

```json
{
    "swagger": "2.0",
    "info": {
        "title": "Acceleration Sensor",
        "version": "v1.1.0-20160519",
        "license": {
            "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
            "x-description": "Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:
```
Redistributions of source code must retain the above copyright notice, this list of conditions and
the following disclaimer.
2. Redistributions in binary form must reproduce the above
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HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY
OF SUCH DAMAGE.

"schemes": ["http"],
"consumes": ["application/json"],
"produces": ["application/json"],
"paths": {
  "/AccelerationResURI" : {
    "get": {
      "description": "This resource provides a measure of proper acceleration (g force) as opposed to co-ordinate acceleration
(which is dependent on the co-ordinate system and the observer). The value is a float which describes the acceleration experienced by the object in "g".",
      "parameters": ["$ref": ":#/parameters/interface"
      ],
      "responses": {
        "200": {
        "description": "",
        "x-example": {
          "rt": ["oic.r.sensor.acceleration"],
          "id": "unique_example_id",
          "acceleration": 0.5
        }
      },
      "schema": { "$ref": ":#/definitions/acceleration" }
    }
  },
  "parameters": {
    "interface" : {
      "in": "query",
      "name": "if",
      "type": "string",
      "enum": ["oic.if.s", "oic.if.baseline"]
    }
  },
  "definitions": {
    "acceleration": {
      "properties": {
        "acceleration": {
          "description": "sensed acceleration experienced in 'g'.",
          "readOnly": true,
          "type": "number"
        }
      },
      "rt": {
        "description": "Resource Type",
        "items": {
          "maxLength": 64,
          "type": "string"
        }
      },
      "minItems": 1,
      "readOnly": true,
"type": "array",

"precision": {
    "description": "Accuracy granularity of the exposed value",
    "readOnly": true,
    "type": "number"
},

"value": {
    "anyOf": [
    {
        "type": "array"
    },
    {
        "type": "string"
    },
    {
        "type": "boolean"
    },
    {
        "type": "integer"
    },
    {
        "type": "number"
    },
    {
        "type": "object"
    }
    ],
    "description": "The value sensed or actuated by this Resource"
},

"n": {
    "description": "Friendly name of the resource",
    "maxLength": 64,
    "readOnly": true,
    "type": "string"
},

"range": {
    "description": "The valid range for the value Property",
    "items": {
        "anyOf": {
            "type": "number"
        },
        "type": "integer"
    }
    },
    "maxItems": 2,
    "minItems": 2,
    "readOnly": true,
    "type": "array"
},

"step": {
    "anyOf": {
        "type": "integer"
    },
        "type": "number"
    }
}
B.2.5 Property Definition

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>range</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>The valid range for the value Property</td>
</tr>
<tr>
<td>acceleration</td>
<td>number</td>
<td>Yes</td>
<td>Read Only</td>
<td>sensed acceleration experienced in 'g'.</td>
</tr>
<tr>
<td>rt</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>Resource Type</td>
</tr>
<tr>
<td>step</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>Step value across the defined range</td>
</tr>
<tr>
<td>id</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td></td>
</tr>
<tr>
<td>Field</td>
<td>Type</td>
<td>Required</td>
<td>Access</td>
<td>Description</td>
</tr>
<tr>
<td>---------------------------</td>
<td>--------------------</td>
<td>----------</td>
<td>------------</td>
<td>-----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>n</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Friendly name of this specific resource</td>
</tr>
<tr>
<td>value</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>Read Write</td>
<td>The value sensed or actuated by this Resource</td>
</tr>
<tr>
<td>interface set</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>The interface set supported by this resource</td>
</tr>
<tr>
<td>precision</td>
<td>number</td>
<td>No</td>
<td>Read Only</td>
<td>Accuracy granularity of the exposed value</td>
</tr>
</tbody>
</table>

**Table 242 The CRUDN operations of the resource**

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/AccelerationResURI</td>
<td></td>
<td>get</td>
<td></td>
<td></td>
<td>observe</td>
</tr>
</tbody>
</table>

**B.2.6 CRUDN behaviour**

**B.3 Activity Count**

**B.3.1 Introduction**

This resource specifies an activity count. The resource can be readonly (oic.if.s interface) in which instance it represents a count. The resource can be readwrite (oic.if.a interface) in which instance it represents a goal or target for a count.

The count property is an integer representing either the current count or goal value.

**B.3.2 Example URI**

/ActivityCountResURI

**B.3.3 Resource Type**

The resource type (rt) is defined as: ['oic.r.sensor.activity.count'].

**B.3.4 Swagger2.0 Definition**

```json
{
    "swagger": "2.0",
    "info": {
        "title": "Activity Count",
        "version": "v1.1.0-20160519",
        "license": {
            "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved."
        }
    }
}
```
"description": "This resource specifies an activity count.\nThe resource can be readonly
(oic.if.s interface) in which instance it represents a count.\nThe resource can be readwrite
(oic.if.a interface) in which instance it represents a goal or target for a count.\nThe count
property is an integer representing either the current count or goal value.\nRetrieves the current
activity count.\n",
"parameters": [
  {"$ref": "#/parameters/interface"}],
"responses": {
  "200": {
    "description": "",
    "x-example": {
      "rt": ["oic.r.sensor.activity.count"],
      "id": "unique_example_id",
      "count": 2500
    }
  },
  "schema": { "$ref": "#/definitions/Count" }
},
"post": {
  "description": "Sets the count target\n",
  "parameters": [
    {"$ref": "#/parameters/interface"},
    {
      "name": "body",
      "in": "body",
      "required": true,
      "schema": { "$ref": "#/definitions/Count" },
      "x-example": {
        "id": "unique_example_id",
        "count": 5000
      }
    }
  ],
  "responses": {
    "200": {
      "description": "",
      "x-example": {
        "id": "unique_example_id",
        "count": 5000
      }
    },
    "schema": { "$ref": "#/definitions/Count" }
  }
},
"parameters": {
  "interface": {
    "in": "query",
    "name": "if",
  }
}
"type": "string",
"enum": ["oic.if.s", "oic.if.a", "oic.if.baseline"]
}
"definitions": {
"Count": {
"properties": {
"count": {
"description": "Current or Target count.",
"type": "integer"
},
"rt": {
"description": "Resource Type",
"items": {
"maxLength": 64,
"type": "string"
},
"minItems": 1,
"readOnly": true,
"type": "array"
},
"precision": {
"description": "Accuracy granularity of the exposed value",
"readOnly": true,
"type": "number"
},
"value": {
"anyOf": [
"type": "array"
],
"description": "The value sensed or actuated by this Resource"
},
"n": {
"description": "Friendly name of the resource",
"maxLength": 64,
"readOnly": true,
"type": "string"
},
"range": {
"description": "The valid range for the value Property",
"items": {
"anyOf": ["array", "string", "boolean", "integer", "number", "object"]
},
"description": "The value sensed or actuated by this Resource"}
B.3.5 Property Definition

Table 243 The properties definitions of the resource

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>count</td>
<td>integer</td>
<td>Yes</td>
<td>Read Write</td>
<td></td>
</tr>
</tbody>
</table>
B.3.6 CRUDN behaviour

Table 244 The CRUDN operations of the resource

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/ActivityCountResURI</td>
<td>get</td>
<td>post</td>
<td></td>
<td></td>
<td>observe</td>
</tr>
</tbody>
</table>

B.4 Air Flow

B.4.1 Introduction

This resource describes the properties associated with air flow.

The supported directions is the set of valid values for the direction property for a particular instance of this resource type.

The direction is the directionality of the air flow if applicable, if supported directions is also present it must be a value from that set.

Direction values are dependent on the capabilities of the unit.

The speed is an integer representing the current speed level for the unit.

The range (from oic.r.baseresource) is an array of the min,max values for the speed level. If not present the range defaults to [0,100].

automode is the status of the automode feature; Off means automode is not enabled, On means automode is active and the speed is automatically controlled by the device.
B.4.2 Example URI

/AirFlowResURI

B.4.3 Resource Type

The resource type (rt) is defined as: ['oic.r.airflow'].

B.4.4 Swagger2.0 Definition

```json
{
  "swagger": "2.0",
  "info": {
    "title": "Air Flow",
    "version": "v1.1.0-20160519",
    "license": {
      "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
      "x-description": "Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:\n1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.\n2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.\nTHIS SOFTWARE IS PROVIDED BY THE Open Connectivity Foundation, INC. "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR WARRANTIES OF NON-INFRINGEMENT, ARE DISCLAIMED.\nIN NO EVENT SHALL The Open Connectivity Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE."
    }
  },
  "schemes": ["http"],
  "consumes": ["application/json"],
  "produces": ["application/json"],
  "paths": {
    "/AirFlowResURI": {
      "get": {
        "description": "This resource describes the properties associated with air flow.\nThe supporteddirections is the set of valid values for the direction property for a particular instance of this resource type.\nThe direction is the directionality of the air flow if applicable, if supporteddirections is also present it must be a value from that set.\nDirection values are dependent on the capabilities of the unit\nThe speed is an integer representing the current speed level for the unit.\nThe range (from oic.r.baseresource) is an array of the min,max values for the speed level. If not present the range defaults to [0,100].\nautomode is the status of the automode feature; Off means automode is not enabled, On means automode is active and the speed is automatically controlled by the device.\nRetrieves the current air flow values.\n",
        "parameters": [
          {"$ref": "#/parameters/interface"}
        ],
        "responses": {
          "200": {
            "description": "",
            "x-example": {
              "rt": ["oic.r.airflow"],
              "id": "unique_example_id",
              "supporteddirections": ["left","right","centre"],
              "direction": "left",
              "speed": 5,
              "range": [1,7],
              "automode": "Off"
            }
          }
        }
      },
      "post": {
        "description": "Sets the current air flow values.\nOnly direction and speed may be set by"```
an update operation.

"parameters": [
  {
    "$ref": "#/parameters/interface",
    "name": "body",
    "in": "body",
    "required": true,
    "schema": {
      "$ref": "#/definitions/AirFlow" },
    "x-example": {
      "id": "unique_example_id",
      "direction": "right",
      "speed": 3
    }
  },
  "responses": {
    "200": {
      "description": "",
      "x-example": {
        "id": "unique_example_id",
        "direction": "right",
        "speed": 3
      }
    },
    "403": {
      "description": "This response is generated by the OCF Server when the client sends:
  An update with an invalid property value for direction.
  An update with an out of range property value for speed.
The server may respond with the current resource representation.
      "x-example": {
        "id": "unique_example_id",
        "supporteddirections": ["left","right","centre"],
        "direction": "right",
        "speed": 3
      }
    }
  }
],
"parameters": {
  "interface": {
    "in": "query",
    "name": "if",
    "type": "string",
    "enum": ["oic.if.a", "oic.if.baseline"]
  }
},
"definitions": {
  "AirFlow": {
    "properties": {
      "rt": {
        "description": "Resource Type",
        "items": {
          "maxLength": 64,
          "type": "string"
        },
        "minItems": 1,
        "readOnly": true,
        "type": "array"
      }
    }
  }
}
"description": "Directionality of the air flow",
  "type": "string"
},

"automode": {
  "description": "Status of the automode feature, if on speed is set by the device",
  "enum": [
    "On",
    "Off"
  ],
  "type": "string"
},

"precision": {
  "description": "Accuracy granularity of the exposed value",
  "readOnly": true,
  "type": "number"
},

"value": {
  "anyOf": [
    {
      "type": "array"
    },
    {
      "type": "string"
    },
    {
      "type": "boolean"
    },
    {
      "type": "integer"
    },
    {
      "type": "number"
    },
    {
      "type": "object"
    }
  ],
  "description": "The value sensed or actuated by this Resource"
},

"n": {
  "description": "Friendly name of the resource",
  "maxLength": 64,
  "readOnly": true,
  "type": "string"
},

"range": {
  "description": "The valid range for the value Property",
  "items": [
    "anyOf": [
      {
        "type": "number"
      },
      {
        "type": "integer"
      }
    ]
  ],
  "maxItems": 2,
  "minItems": 2,
  "readOnly": true,
  "type": "array"
"step": {
  "anyOf": [
    {
      "type": "integer"
    },
    {
      "type": "number"
    }
  ],
  "description": "Step value across the defined range",
  "readOnly": true
},

"supporteddirections": {
  "description": "Array of possible direction settings for this instance of the Resource Type",
  "items": {
    "minItems": 1,
    "type": "string",
    "uniqueItems": true
  },
  "readOnly": true,
  "type": "array"
},

"speed": {
  "description": "Current speed level",
  "type": "integer"
},

"id": {
  "description": "Instance ID of this specific resource",
  "maxLength": 64,
  "readOnly": true,
  "type": "string"
},

"if": {
  "description": "The interface set supported by this resource",
  "items": {
    "enum": [
      "oic.if.baseline",
      "oic.if.ll",
      "oic.if.b",
      "oic.if.lb",
      "oic.if.rw",
      "oic.if.r",
      "oic.if.a",
      "oic.if.s"
    ],
    "type": "string"
  },
  "minItems": 1,
  "readOnly": true,
  "type": "array"
}
### Property Definition

#### Table 245 The properties definitions of the resource AirFlowResURI

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>range</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>The valid range for the value Property</td>
</tr>
<tr>
<td>direction</td>
<td>string</td>
<td>No</td>
<td>Read Write</td>
<td>Directionality of the air flow</td>
</tr>
<tr>
<td>value</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>Read Write</td>
<td>The value sensed or actuated by this Resource</td>
</tr>
<tr>
<td>speed</td>
<td>integer</td>
<td>Yes</td>
<td>Read Write</td>
<td>Current speed level</td>
</tr>
<tr>
<td>supporteddirections</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>Array of possible direction settings for this instance of the Resource Type</td>
</tr>
<tr>
<td>n</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Friendly name of the resource</td>
</tr>
<tr>
<td>precision</td>
<td>number</td>
<td>No</td>
<td>Read Only</td>
<td>Accuracy granularity of the exposed value</td>
</tr>
<tr>
<td>if</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>The interface set supported by this resource</td>
</tr>
<tr>
<td>rt</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>Resource Type</td>
</tr>
<tr>
<td>automode</td>
<td>string</td>
<td>No</td>
<td>Read Write</td>
<td>Status of the automode feature, if on speed is set by the device</td>
</tr>
<tr>
<td>id</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Instance ID of this specific resource</td>
</tr>
<tr>
<td>step</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>Step value across the defined range</td>
</tr>
</tbody>
</table>
B.4.6 CRUDN behaviour

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/AirFlowResURI</td>
<td>get</td>
<td>post</td>
<td></td>
<td></td>
<td>observe</td>
</tr>
</tbody>
</table>

B.5 Air Flow Control

B.5.1 Introduction

This resource describes the attributes associated with control of air flow, for example as modelled by a Thermostat (fan), Room A/C or other device. The resource is a composite resource being made up as a collection of:
- AirFlow Resource
- BinarySwitch Resource

B.5.2 Example URI

/ResourceURI

B.5.3 Resource Type

The resource type (rt) is defined as: ['oic.r.airflowcontrol'].

B.5.4 Swagger2.0 Definition

```json
{
  "swagger": "2.0",
  "info": {
    "title": "Air Flow Control",
    "version": "v1.1.0-20160519",
    "license": {
      "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
      "x-description": "Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:\n  1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.\n  2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.\n  THIS SOFTWARE IS PROVIDED BY THE Open Connectivity Foundation, INC. "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR WARRANTIES OF NONINFRINGEMENT, ARE DISCLAIMED.\n  IN NO EVENT SHALL THE Open Connectivity Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE."
    }
  },
  "schemes": ["http"],
  "consumes": ["application/json"],
  "produces": ["application/json"],
  "paths": {
    "/AirFlowControlResURI": {
      "get": {
        "description": "This resource describes the attributes associated with control of air flow, for example as modelled by a Thermostat (fan), Room A/C or other device. The resource is a composite resource being made up as a collection of: AirFlow Resource BinarySwitch Resource
Retrieves the current air flow control values."
      }
    }
  }
}``
{  
  "rt": ["oic.r.airflowcontrol"],
  "id": "unique_example_id",
  "airFlowControl": [  
    {  
      "href": "/BinarySwitchResURI",
      "rel": "contains",
      "rt": ["oic.r.switch.binary"],
      "if": ["oic.if.a"],
      "eps": [{"ep": "coaps://[fe80::b1d6]:1122"}]
    },  
    {  
      "href": "/AirFlowResURI",
      "rel": "contains",
      "rt": ["oic.r.airflow"],
      "if": ["oic.if.a"],
      "eps": [{"ep": "coaps://[fe80::b1d6]:1122"}]
    }
  ],
  "schema": { "$ref": "#/definitions/AirFlowControl" }
}

"post": {  
  "description": "Sets the current air flow control values using the batch interface\n",
  "parameters": [  
    { "$ref": "#/parameters/interface-b"},
    {  
      "name": "body",
      "in": "body",
      "required": true,
      "schema": { "$ref": "#/definitions/AirFlowControlBatch" },
      "x-example":  
        {  
          "id": "unique_example_id",
          "airFlowControl": [  
            {  
              "id": "unique_example_id",
              "value": true
            },  
            {  
              "id": "unique_example_id",
              "direction": "right",
              "speed": 3
            }
          ]
        }
  ],
  "responses": {  
    "200": {  
      "description": "",
      "x-example":  
        {  
          "id": "unique_example_id",
          "airFlowControl": [  
            {  
              "id": "unique_example_id",
              "value": true
            },  
            {  
              "id": "unique_example_id",
              "direction": "right",
              "speed": 3
            }
          ]
        }
  }
}
"403": {
    "description": "This response is generated by the OIC Server when the client
sends:
  An update with an invalid property value for direction.
  An update with an out of range
property value for speed.
The server responds with the current resource representation.
"x-example":
    {
    "id": "unique_example_id",
    "airFlowControl": 
    { 
      "id": "unique_example_id",
      "value": true
    },
    { 
      "id": "unique_example_id",
      "direction": "right",
      "speed": 3
    }
  }
},
"parameters": {
  "interface-b": {
    "in": "query",
    "name": "if",
    "type": "string",
    "enum": ["oic.if.b"]
  },
  "interface-all": {
    "in": "query",
    "name": "if",
    "type": "string",
    "enum": ["oic.if.ll", "oic.if.b", "oic.if.baseline"]
  }
},
"definitions": {
  "AirFlowControl": {
    "properties": {
      "rt": {
        "description": "Resource Type",
        "items": {
          "maxLength": 64,
          "type": "string"
        },
        "minItems": 1,
        "readOnly": true,
        "type": "array"
      },
      "airFlowControl":
      {
        "items": {
          "properties": {
            "anchor": {
              "description": "This is used to override the context URI e.g. override the URI of
the containing collection",
              "format": "uri",
              "maxLength": 256,
              "type": "string"
            },
            "di": {
              "description": "An identifier formatted according to IETF RFC 4122.",
              "pattern": "^[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{12}$/""
"type": "string",
},
"eps": {
  "description": "the Endpoint information of the target Resource",
  "items": {
    "properties": {
      "ep": {
        "description": "URI with Transport Protocol Suites + Endpoint Locator as specified in 10.2.1",
        "format": "uri",
        "type": "string"
      },
      "pri": {
        "description": "The priority among multiple Endpoints as specified in 10.2.3",
        "minimum": 1,
        "type": "integer"
      }
    }
  }
},
"type": "object",
"type": "array",
"href": {
  "description": "This is the target URI, it can be specified as a Relative Reference or fully-qualified URI. Relative Reference should be used along with the di parameter to make it unique.",
  "format": "uri",
  "maxLength": 256,
  "type": "string"
},
"if": {
  "description": "The interface set supported by this resource",
  "items": {
    "enum": ["oic.if.baseline", "oic.if.ll", "oic.if.b", "oic.if.rw", "oic.if.r", "oic.if.a", "oic.if.s"],
    "type": "string"
  }},
"ins": {
  "description": "The instance identifier for this web link in an array of web links - used in collections",
  "oneOf": [
    "description": "An ordinal number that is not repeated - must be unique in the collection context",
    "type": "integer"
  ],
  "format": "uri",
  "maxLength": 256,
  "type": "string"
}];
"pattern": "{[a-zA-F0-9]\{8\}-[a-zA-F0-9]\{4\}-[a-zA-F0-9]\{4\}-[a-zA-F0-9]\{4\}-[a-zA-F0-9]\{12\}}$",
"type": "string"}
"p": {
  "description": "Specifies the framework policies on the Resource referenced by the target URI",
  "properties": {
    "bm": {
      "description": "Specifies the framework policies on the Resource referenced by the target URI for e.g. observable and discoverable",
      "type": "integer"
    },
    "required": ["bm"],
    "type": "object"
  },
  "rel": {
    "description": "The relation of the target URI referenced by the link to the context URI",
    "oneOf": [
      {
        "default": ["hosts"],
        "items": {
          "maxLength": 64,
          "type": "string"
        },
        "minItems": 1,
        "type": "array"
      },
      {
        "default": "hosts",
        "maxLength": 64,
        "type": "string"
      }
    ],
    "rt": {
      "description": "Resource Type",
      "items": {
        "maxLength": 64,
        "type": "string"
      },
      "minItems": 1,
      "type": "array"
    },
    "title": {
      "description": "A title for the link relation. Can be used by the UI to provide a context",
      "maxLength": 64,
      "type": "string"
    },
    "type": {
      "default": "application/chore",
      "description": "A hint at the representation of the resource referenced by the target URI. This represents the media types that are used for both accepting and emitting",
      "items": {
        "maxLength": 64,
        "type": "string"
      },
      "minItems": 1,
      "type": "array"
    },
    "required": ["href", "rt"],
    "title": "object"
  }
}
"maxItems": 2,
"minItems": 2,
"type": "array"
],
"precision": {
  "description": "Accuracy granularity of the exposed value",
  "readOnly": true,
  "type": "number"
},
"value": {
  "anyOf": [
    { "type": "array" },
    { "type": "string" },
    { "type": "boolean" },
    { "type": "integer" },
    { "type": "number" },
    { "type": "object" }
  ],
  "description": "The value sensed or actuated by this Resource"
},
"n": {
  "description": "Friendly name of the resource",
  "maxLength": 64,
  "readOnly": true,
  "type": "string"
},
"range": {
  "description": "The valid range for the value Property",
  "items": [
    { "anyOf": [
      { "type": "number" }
    ],
    { "type": "integer" }
  ]
},
"maxItems": 2,
"minItems": 2,
"readOnly": true,
"type": "array"
],
"step": {
  "anyOf": [
    { "type": "integer" }
  ]
}
"type": "number"
],
"description": "Step value across the defined range",
"readOnly": true
},
"id": {
"description": "Instance ID of this specific resource",
"maxLength": 64,
"readOnly": true,
"type": "string"
},
"if": {
"description": "The interface set supported by this resource",
"items": {
"enum": [
"oic.if.baseline",
"oic.if.ll",
"oic.if.b",
"oic.if.lb",
"oic.if.rw",
"oic.if.z",
"oic.if.a",
"oic.if.s"
],
"type": "string"
},
"minItems": 1,
"readOnly": true,
"type": "array"
}
", "type": "object"
],
"required": ["airFlowControl"]

"AirFlowControlBatch": {
"properties": {
"rt": {
"description": "Resource Type",
"items": {
"maxLength": 64,
"type": "string"
},
"minItems": 1,
"readOnly": true,
"type": "array"
}
},
"airFlowControl": {
"items": {
"anyOf": {
"properties": {
"value": {
"description": "Status of the switch",
"type": "boolean"
}
},
"type": "object"
},
"automode": {
"type": "object"

"properties": {
"automode": {
"type": "object"
"description": "Status of the automode feature, if on speed is set by the device",
  "enum": [
    "On",
    "Off"
  ],
  "type": "string"
},
  "direction": {
    "description": "Directionality of the air flow",
    "type": "string"
  },
  "speed": {
    "description": "Current speed level",
    "type": "integer"
  },
  "supporteddirections": {
    "description": "Array of possible direction settings for this instance of the Resource Type",
    "items": {
      "minItems": 1,
      "type": "string",
      "uniqueItems": true
    },
    "readOnly": true,
    "type": "array"
  },
  "precision": {
    "description": "Accuracy granularity of the exposed value",
    "readOnly": true,
    "type": "number"
  },
  "value": {
    "anyOf": [
      {
        "type": "array"
      },
      {
        "type": "string"
      },
      {
        "type": "boolean"
      },
      {
        "type": "integer"
      },
      {
        "type": "number"
      },
      {
        "type": "object"
      }
    ],
    "description": "The value sensed or actuated by this Resource"
  },
  "n": {
    "description": "Friendly name of the resource",
    "maxLength": 64,
"readOnly": true,
"type": "string"
},

"range": {
"description": "The valid range for the value Property",
"items": {
"anyOf": {

"type": "number"
},

"type": "integer"

}
},

"maxItems": 2,
"minItems": 2,
"readOnly": true,
"type": "array"
},

"step": {
"anyOf": {

"type": "integer"
},

"type": "number"

}

"description": "Step value across the defined range",
"readOnly": true
},

"id": {
"description": "Instance ID of this specific resource",
"maxLength": 64,
"readOnly": true,
"type": "string"
},

"if": {
"description": "The interface set supported by this resource",
"items": {
"enum": [
"oic.if.baseline",
"oic.if.ll",
"oic.if.b",
"oic.if.lb",
"oic.if.rw",
"oic.if.r",
"oic.if.a",
"oic.if.s"

],

"type": "string"

}

"minItems": 1,
"readOnly": true,
"type": "array"
}

},

"type": "object"

,"required": ["airFlowControl"]

}
### B.5.5 Property Definition

#### Table 247 The properties definitions of the resource

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>n</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Friendly name of the resource</td>
</tr>
<tr>
<td>precision</td>
<td>number</td>
<td>No</td>
<td>Read Only</td>
<td>Accuracy granularity of the exposed value</td>
</tr>
<tr>
<td>step</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>Step value across the defined range</td>
</tr>
<tr>
<td>rt</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>Resource Type</td>
</tr>
<tr>
<td>value</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>Read Write</td>
<td>The value sensed or actuated by this Resource</td>
</tr>
<tr>
<td>id</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Instance ID of this specific resource</td>
</tr>
<tr>
<td>if</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>The interface set supported by this resource</td>
</tr>
<tr>
<td>range</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>The valid range for the value Property</td>
</tr>
<tr>
<td>airFlowControl</td>
<td>array: see schema</td>
<td>Yes</td>
<td>Read Write</td>
<td></td>
</tr>
<tr>
<td>n</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Friendly name of the resource</td>
</tr>
<tr>
<td>precision</td>
<td>number</td>
<td>No</td>
<td>Read Only</td>
<td>Accuracy granularity of the exposed value</td>
</tr>
<tr>
<td>step</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>Step value across the defined range</td>
</tr>
<tr>
<td>rt</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>Resource Type</td>
</tr>
<tr>
<td>value</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>Read Write</td>
<td>The value sensed or actuated by this Resource</td>
</tr>
</tbody>
</table>
**B.5.6  CRUDN behaviour**

<table>
<thead>
<tr>
<th>Resource id string</th>
<th>No</th>
<th>Read Only</th>
<th>Instance ID of this specific resource actuated by this Resource</th>
</tr>
</thead>
<tbody>
<tr>
<td>if array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>The interface set supported by this resource</td>
</tr>
<tr>
<td>range array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>The valid range for the value Property</td>
</tr>
<tr>
<td>airFlowControl array: see schema</td>
<td>Yes</td>
<td>Read Write</td>
<td></td>
</tr>
</tbody>
</table>

**Table 248 The CRUDN operations of the resource**

<table>
<thead>
<tr>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>get</td>
<td>post</td>
<td></td>
<td></td>
<td>observe</td>
</tr>
</tbody>
</table>

**B.6  Air Quality**

**B.6.1  Introduction**

This resource describes a qualitative or measured contaminant that can be used to infer Air Quality. Measured is the actual sensed value with units per contaminant type as described below: Qualitative is a representative value within the range provided where the minimum value is minimum contamination and maximum value is maximum contamination for the specific contaminant. The valueType indicates a qualitative or measured reading within the contaminantvalue Property. contaminantvalue contains the actual measured or qualitative level. range contains the allowed range for the value that is being reported (from oic.r.baseresource). If valueType is 'Measured' then the units for the contaminant types are as follows:

- Methanal (also known as Formaldehyde): CH2O (ug/m^3),
- Carbon Dioxide: CO2 (ppm),
- Carbon Monoxide: CO (ppm),
- Particulate Matter (less than 2.5 microns in diameter): PM2.5 (ug/m^3),
- Particulate Matter (less than 10 microns in diameter): PM10 (ug/m^3),
- Volatile Organic Compounds: VOC (ug/m^3)

**B.6.2  Example URI**

/AirQualityResURI

**B.6.3  Resource Type**

The resource type (rt) is defined as: ['oic.r.airquality'].

**B.6.4  Swagger2.0 Definition**

```json
{
    "swagger": "2.0",
    "info": {
        "title": "Air Quality",
        "version": "v1.1.0-20160519",
        "license": {
            "name": "CC-0",
            "url": "http://creativecommons.org/publicdomain/zero/1.0/"
        }
    },
    "paths": {
        
```
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"x-description": "Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

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"schemes": ["http"],
"consumes": ["application/json"],
"produces": ["application/json"],
"paths": {
    "/AirQualityResURI" : {
        "get": {
            "description": "This resource describes a qualitative or measured contaminant that can be used to infer Air Quality. Measured is the actual sensed value with units per contaminant type as described below. Qualitative is a representative value within the range provided where the minimum value is minimum contamination and maximum value is maximum contamination for the specific contaminant. The valueType indicates a qualitative or measured reading within the contaminant value Property. ContaminantValue contains the actual measured or qualitative level. Range contains the allowed range for the value that is being reported (from oic.r.baseresource). If value Type is 'Measured' then the units for the contaminant types are as follows: Methanal (also known as Formaldehyde): CH2O (ug/m^3), Carbon Dioxide: CO2 (ppm), Carbon Monoxide: CO (ppm), PM Particulate Matter (less than 2.5 microns in diameter): PM2.5 (ug/m^3), PM Particulate Matter (less than 10 microns in diameter): PM10 (ug/m^3), Volatile Organic Compounds: VOC (ug/m^3) Retrieves the current air quality.",
            "responses": {
                "200": {
                    "description": "",
                    "x-example": {
                        "rt": ["oic.r.airquality"],
                        "id": "unique_example_id",
                        "contaminanttype": "CO",
                        "valuetype": "Measured",
                        "contaminantvalue": 10,
                        "range": [0,500]
                    }
                },
                "schema": { "$ref": "#/definitions/AirQuality" }
            }
        },
        "parameters": {
            "interface": { "in": "query", "name": "if", "type": "string", "enum": ["oic.if.s", "oic.if.baseline"]
        }
    }
},
"definitions": {
    "AirQuality": {
        "properties": {
            "contaminanttype": {
                "description": "This resource describes a qualitative or measured contaminant that can be used to infer Air Quality. Measured is the actual sensed value with units per contaminant type as described below. Qualitative is a representative value within the range provided where the minimum value is minimum contamination and maximum value is maximum contamination for the specific contaminant. The valueType indicates a qualitative or measured reading within the contaminant value Property. ContaminantValue contains the actual measured or qualitative level. Range contains the allowed range for the value that is being reported (from oic.r.baseresource). If value Type is 'Measured' then the units for the contaminant types are as follows: Methanal (also known as Formaldehyde): CH2O (ug/m^3), Carbon Dioxide: CO2 (ppm), Carbon Monoxide: CO (ppm), PM Particulate Matter (less than 2.5 microns in diameter): PM2.5 (ug/m^3), PM Particulate Matter (less than 10 microns in diameter): PM10 (ug/m^3), Volatile Organic Compounds: VOC (ug/m^3) Retrieves the current air quality.",
            "schema": { "$ref": "#/definitions/AirQuality" }
        }
    }
}
"description": "The contaminant being measured.",
"enum": [
  "CH2O",
  "CO2",
  "CO",
  "PM2.5",
  "PM10",
  "VOC",
  "Smoke",
  "Odor",
  "AirPollution"
],
"readOnly": true,
"type": "string"
},
"rt": {
  "description": "Resource Type",
  "items": {
    "maxLength": 64,
    "type": "string"
  },
  "minItems": 1,
  "readOnly": true,
  "type": "array"
},
"valuetype": {
  "description": "Indicates whether the provided value is qualitative or measured.",
  "enum": [
    "Qualitative",
    "Measured"
  ],
  "readOnly": true,
  "type": "string"
},
"precision": {
  "description": "Accuracy granularity of the exposed value",
  "readOnly": true,
  "type": "number"
},
"value": {
  "anyOf": [
    {
      "type": "array"
    },
    {
      "type": "string"
    },
    {
      "type": "boolean"
    },
    {
      "type": "integer"
    },
    {
      "type": "number"
    },
    {
      "type": "object"
    }
  ],
  "description": "The value sensed or actuated by this Resource"}
"n": {
  "description": "Friendly name of the resource",
  "maxLength": 64,
  "readOnly": true,
  "type": "string"
},

"range": {
  "description": "The valid range for the value Property",
  "items": {
    "anyOf": [
      { "type": "number" },
      { "type": "integer" }
    ],
    "maxItems": 2,
    "minItems": 2,
    "readOnly": true,
    "type": "array"
  },

  "step": {
    "anyOf": [
      { "type": "integer" },
      { "type": "number" }
    ],
    "description": "Step value across the defined range",
    "readOnly": true
  },

  "contaminantvalue": {
    "description": "The measured or qualitative value for the contaminant.",
    "readOnly": true,
    "type": "integer"
  },

  "id": {
    "description": "Instance ID of this specific resource",
    "maxLength": 64,
    "readOnly": true,
    "type": "string"
  },

  "if": {
    "description": "The interface set supported by this resource",
    "items": [
      "oic.if.baseline",
      "oic.if.ll",
      "oic.if.b",
      "oic.if.lb",
      "oic.if.rw",
      "oic.if.rb",
      "oic.if.a",
      "oic.if.s"
    ],
    "type": "string"
```json
{
    "minItems": 1,
    "readOnly": true,
    "type": "array"
}

"type": "object"

,"required": ["contaminantvalue", "contaminanttype", "valuetype", "range"]

Table 249 The properties definitions of the resource

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>valuetype</td>
<td>string</td>
<td>Yes</td>
<td>Read Only</td>
<td>Indicates whether the provided value is qualitative or measured.</td>
</tr>
<tr>
<td>n</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Friendly name of the resource</td>
</tr>
<tr>
<td>id</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Instance ID of this specific resource</td>
</tr>
<tr>
<td>range</td>
<td>array: see</td>
<td>Yes</td>
<td>Read Only</td>
<td>The valid range for the value Property</td>
</tr>
<tr>
<td>contaminanttype</td>
<td>string</td>
<td>Yes</td>
<td>Read Only</td>
<td>The contaminant being measured.</td>
</tr>
<tr>
<td>if</td>
<td>array: see</td>
<td>No</td>
<td>Read Only</td>
<td>The interface set supported by this resource</td>
</tr>
<tr>
<td>step</td>
<td>multiple types: see</td>
<td>No</td>
<td>Read Only</td>
<td>Step value across the defined range</td>
</tr>
<tr>
<td>precision</td>
<td>number</td>
<td>No</td>
<td>Read Only</td>
<td>Accuracy granularity of the exposed value</td>
</tr>
<tr>
<td>contaminantvalue</td>
<td>integer</td>
<td>Yes</td>
<td>Read Only</td>
<td>The measured or qualitative value for the contaminant.</td>
</tr>
<tr>
<td>rt</td>
<td>array: see</td>
<td>No</td>
<td>Read Only</td>
<td>Resource Type</td>
</tr>
</tbody>
</table>
```
value | multiple types: see schema | No | Read Write | The value sensed or actuated by this Resource
---|---|---|---|---

### B.6.6 CRUDN behaviour

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/AirQualityResURI</td>
<td>get</td>
<td></td>
<td></td>
<td></td>
<td>observe</td>
</tr>
</tbody>
</table>

### B.7 Air Quality Collection

#### B.7.1 Introduction

This resource describes a sensor that provides the qualitative or measured Air Quality. The resource is a collection of instances of oic.r.airquality detailing the individual exposed contaminant measures. There is one collection entry per contaminant type supported by the device. A device must expose at least one measured or qualitative value.

#### B.7.2 Example URI

/`AirQualityResURI`

#### B.7.3 Resource Type

The resource type (rt) is defined as: ['oic.r.airqualitycollection', 'oic.wk.col']

#### B.7.4 Swagger2.0 Definition

```json
{
  "swagger": "2.0",
  "info": {
    "title": "Air Quality Collection",
    "version": "v1.1.0-20160519",
    "license": {
      "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
      "x-description": "Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:
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    }
  },
  "schemes": ["http"],
  "consumes": ["application/json"],
  "produces": ["application/json"],
  "paths": {
    "/AirQualityResURI?if=oic.if.ll" : {
      "get": {
        "description": "This resource describes a sensor that provides the qualitative or measured Air Quality.
The resource is a collection of instances of oic.r.airquality detailing the individual exposed contaminant measures. There is one collection entry per contaminant type supported by the device. A device must expose at least one measured or qualitative value.
"}}}
value.

Retrieves the current air quality.

"parameters": [
  
  ("$ref": "/parameters/interface-ll")
],

"responses": {
  "200": {
    "description": "",
    "x-example": {
      "href": "/myCOMeasureResURI", "rt": ["oic.r.airquality"], "if": [
        ["oic.if.s", "oic.if.baseline"], "eps": [{"ep": "coaps://[fe80::b1d6]:1122"]}],
      "href": "/myCO2ResURI", "rt": ["oic.r.airquality"], "if": [
        ["oic.if.s", "oic.if.baseline"], "eps": [{"ep": "coaps://[fe80::b1d6]:1122"]}
      ]
    }
  },
  "schema": { "$ref": "/definitions/AirQuality-ll" }
}

"parameters": {
  ("$ref": "/parameters/interface-baseline")
],

"responses": {
  "200": {
    "description": "",
    "x-example": {
      "rt": ["oic.r.airqualitycollection", "oic.wk.col"],
      "if": ["oic.if.baseline", "oic.if.ll"],
      "id": "unique_example_id",
      "links": ["href": "/myCOMeasureResURI", "rt": ["oic.r.airquality"], "if": [
        ["oic.if.s", "oic.if.baseline"], "eps": [{"ep": "coaps://[fe80::b1d6]:1122"]}],
      "href": "/myCO2ResURI", "rt": ["oic.r.airquality"], "if": [
        ["oic.if.s", "oic.if.baseline"], "eps": [{"ep": "coaps://[fe80::b1d6]:1122"]}
      ]
    }
  },
  "schema": { "$ref": "/definitions/AirQuality" }
}

"parameters": {
  "interface-ll" : {
    "in": "query",
    "name": "if",
    "type": "string",
    "enum": ["oic.if.ll"]
  },
  "interface-baseline" : {
    "in": "query",
    "name": "if",
    "type": "string",
    "enum": ["oic.if.baseline"]
  },
  "interface-all" : {
    "in": "query",
    "name": "if",
    "type": "string",
    "enum": ["oic.if.ll", "oic.if.baseline"]
  }
}
"definitions": {
  "AirQuality-ll": {
    "title": "Air Quality Collection Link List Schema (auto merged)"
  },
  "items": {
    "$ref": 
    "#/definitions/oic.oic-link"
  }
},

"AirQuality": {
  "properties": {
    "rt": {
      "items": [
        
        "enum": [
          "oic.r.airqualitycollection",
          "oic.wk.col"
        ],
        "type": "string"
      ]
    },
    "maxItems": 2,
    "minItems": 2,
    "type": "array",
    "uniqueItems": true
  },
  "links": {
    "description": "A set of simple or individual OIC Links."
  },
  "properties": {
    "anchor": {
      "description": "This is used to override the context URI e.g. override the URI of the containing collection."
    },
    "maxLength": 256,
    "type": "string"
  },
  "di": {
    "description": "The Device ID formatted according to IETF RFC 4122."
  },
  "pattern": "^[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{12}$",
  "type": "string"
},
  "eps": {
    "description": "the Endpoint information of the target Resource",
    "properties": {
      "ep": {
        "description": "Transport Protocol Suite + Endpoint Locator",
        "format": "uri",
        "type": "string"
      },
      "pri": {
        "description": "The priority among multiple Endpoints",
        "minimum": 1,
        "type": "integer"
      }
    },
    "type": "object"
  },
  "type": "object"
};

"href": {

"description": "This is the target URI, it can be specified as a Relative Reference or fully-qualified URI.",
"format": "uri",
"maxLength": 256,
"type": "string"
},
"if": {
"description": "The interface set supported by this resource",
"items": {
"enum": [
 "oic.if.baseline",
 "oic.if.ll",
 "oic.if.b",
 "oic.if.rw",
 "oic.if.r",
 "oic.if.a",
 "oic.if.s"
],
"type": "string"
},
"minItems": 1,
"type": "array"
},
"ins": {
"description": "The instance identifier for this web link in an array of web links used in collections",
"type": "integer"
}
},
"p": {
"description": "Specifies the framework policies on the Resource referenced by the target URI",
"properties": {
"bm": {
"description": "Specifies the framework policies on the Resource referenced by the target URI for e.g. observable and discoverable",
"type": "integer"
}
},
"required": ["bm"],
"type": "object"
},
"rel": {
"description": "The relation of the target URI referenced by the link to the context URI",
"oneOf": [
{"default": ["hosts"]},
"items": {
"maxLength": 64,
"type": "string"
},
"minItems": 1,
"type": "array"
},
{"default": "hosts",
"maxLength": 64,
"type": "string"
}]
},
"rt": {
"description": "Resource Type of the Resource",
"items": {
"maxLength": 64,
"type": "string"
}
"minItems": 1,
"type": "array"
},
"title": {
"description": "A title for the link relation. Can be used by the UI to provide a context."
},
"maxLength": 64,
"type": "string"
},
"type": {
"default": "application/cbor",
"description": "A hint at the representation of the resource referenced by the target URI. This represents the media types that are used for both accepting and emitting."
},
"items": {
"maxLength": 64,
"type": "string"
},
"minItems": 1,
"type": "array"
}
},
"required": [
"href",
"rt",
"if"
],
"type": "object"
},
"type": "array"
},

"n": {
"description": "Friendly name of the resource",
"maxLength": 64,
"readOnly": true,
"type": "string"
},

"rts": {
"items": {
"anyOf": [
{
"enum": [
"oic.r.airquality",
"oic.r.value.conditional"
],
"type": "string"
}
}
},

"id": {
"description": "Instance ID of this specific resource",
"maxLength": 64,
"readOnly": true,
"type": "string"
}
"if": {
  "description": "The interface set supported by this resource",
  "items": {
    "enum": [
      "oic.if.baseline",
      "oic.if.ll",
      "oic.if.b",
      "oic.if.lb",
      "oic.if.rw",
      "oic.if.r",
      "oic.if.e",
      "oic.if.s"
    ],
    "type": "string"
  },
  "minItems": 1,
  "readOnly": true,
  "type": "array"
}

"airqualitycollection-ll": {
  "items": {
    "$ref": "#/definitions/oic.oic-link"
  },
  "type": "array"
}

"oic.collection.links.arrayoflinks": {
  "properties": {
    "links": {
      "description": "A set of simple or individual OIC Links.",
      "items": {
        "properties": {
          "anchor": {
            "description": "This is used to override the context URI e.g. override the URI of the containing collection.",
            "format": "uri",
            "maxLength": 256,
            "type": "string"
          },
          "di": {
            "description": "The Device ID formatted according to IETF RFC 4122.",
            "pattern": "^[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{12}$",
            "type": "string"
          },
          "eps": {
            "description": "the Endpoint information of the target Resource",
            "items": {
              "properties": {
                "ep": {
                  "description": "Transport Protocol Suite + Endpoint Locator",
                  "format": "uri",
                  "type": "string"
                }
              },
              "pri": {
                "description": "The priority among multiple Endpoints",
                "minimum": 1,
                "type": "integer"
              }
            },
            "type": "object"
          }
        },
        "type": "array"
      }
    }
  }
}
"href": {
  "description": "This is the target URI, it can be specified as a Relative Reference or fully-qualified URI."
},
  "format": "uri",
  "maxLength": 256,
  "type": "string"
},
"if": {
  "description": "The interface set supported by this resource",
  "items": {
    "enum": [
      "oic.if.baseline",
      "oic.if.1l",
      "oic.if.b",
      "oic.if.rw",
      "oic.if.r",
      "oic.if.a",
      "oic.if.s"
    ],
    "type": "string"
  },
  "minItems": 1,
  "type": "array"
},
"ins": {
  "description": "The instance identifier for this web link in an array of web links - used in collections",
  "type": "integer"
},
"p": {
  "description": "Specifies the framework policies on the Resource referenced by the target URI",
  "properties": {
    "bm": {
      "description": "Specifies the framework policies on the Resource referenced by the target URI for e.g. observable and discoverable",
      "type": "integer"
    }
  },
  "required": ["bm"],
  "type": "object"
},
"rel": {
  "description": "The relation of the target URI referenced by the link to the context URI",
  "oneOf": [
    {"default": ["hosts"],
     "items": {
      "maxLength": 64,
      "type": "string"
    },
     "minItems": 1,
     "type": "array"
    },
    {"default": "hosts",
     "maxLength": 64,
     "type": "string"
    }
  ]
},
"rt": {
  "description": "Resource Type of the Resource",
  "items": {
    "maxLength": 64,
"type": "string",
"minItems": 1,
"type": "array"
},
"title": {
"description": "A title for the link relation. Can be used by the UI to provide a
collection.",
"maxLength": 64,
"type": "string"
},
"type": {
"default": "application/cbor",
"description": "A hint at the representation of the resource referenced by the
target URI. This represents the media types that are used for both accepting and emitting.",
"items": {
"maxLength": 64,
"type": "string"
},
"minItems": 1,
"type": "array"
}
},
"required": [
"href",
"rt",
"if"
],
"type": "object"
},
"type": "array"
}
,"oic.collection.properties": {
"description": "A collection is a set of links along with additional properties to describe
the collection itself",
"properties": {
"rts": {
"$ref": "#/definitions/oic.core/properties/rt",
"description": "The list of allowable resource types (for Target and anchors) in links
included in the collection"
}
},
"type": "object"
}"
,"oic.core": {
"properties": {
"id": {
"description": "Instance ID of this specific resource",
"maxLength": 64,
"readOnly": true,
"type": "string"
}
},
"if": {
"description": "The interface set supported by this resource",
"items": {
"enum": [
"oic.if.baseline",
"oic.if.ll",
"oic.if.b",
"oic.if.lb",
"oic.if.rw",
"oic.if.r",
"oic.if.a",
"oic.if.s"
]
},
"type": "array"
}
"type": "string"
},
"minItems": 1,
"readOnly": true,
"type": "array"
],
"n": {
"description": "Friendly name of the resource",
"maxLength": 64,
"readOnly": true,
"type": "string"
},
"rt": {
"description": "Resource Type",
"items": {
"maxLength": 64,
"type": "string"
},
"minItems": 1,
"readOnly": true,
"type": "array"
}

]}
"type": "object"
}
"oic.r.airqualitycollection": {
  "properties": {
  "rt": {
    "items": {
      "enum": ["oic.r.airqualitycollection", "oic.wk.col"],
      "type": "string"
    },
    "maxItems": 2,
    "minItems": 2,
    "type": "array",
    "uniqueItems": true
  },
  "rts": {
    "items": {
      "anyOf": [
        {"enum": ["oic.r.airquality", "oic.r.value.conditional"],
        "type": "string"},
        {"enum": ["oic.r.airquality"],
        "type": "string"}
      ]
    },
    "maxItems": 2,
    "minItems": 1,
    "type": "array",
    "uniqueItems": true
  }},
  "type": "object"
}
"oic.oic-link": {
  "type": "object"
}
"properties": {
  "anchor": {
    "description": "This is used to override the context URI e.g. override the URI of the containing collection.",
    "format": "uri",
    "maxLength": 256,
    "type": "string"
  },
  "di": {
    "description": "The Device ID formatted according to IETF RFC 4122.",
    "pattern": "^[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{12}\$",
    "type": "string"
  },
  "eps": {
    "description": "the Endpoint information of the target Resource",
    "items": {
      "properties": {
        "ep": {
          "description": "Transport Protocol Suite + Endpoint Locator",
          "format": "uri",
          "type": "string"
        },
        "pri": {
          "description": "The priority among multiple Endpoints",
          "minimum": 1,
          "type": "integer"
        }
      },
      "type": "object"
    },
    "type": "array"
  },
  "href": {
    "description": "This is the target URI, it can be specified as a Relative Reference or fully-qualified URI.",
    "format": "uri",
    "maxLength": 256,
    "type": "string"
  },
  "if": {
    "description": "The interface set supported by this resource",
    "items": {
      "enum": [
        "oic.if.baseline",
        "oic.if.ll",
        "oic.if.b",
        "oic.if.rw",
        "oic.if.r",
        "oic.if.a",
        "oic.if.s"
      ],
      "type": "string"
    },
    "minItems": 1,
    "type": "array"
  },
  "ins": {
    "description": "The instance identifier for this web link in an array of web links - used in collections",
    "type": "integer"
  },
  "p": {
    "description": "Specifies the framework policies on the Resource referenced by the target URI",
    "properties": {
      "bm": {
        "description": "Specifies the framework policies on the Resource referenced by the target URI for e.g. observable and discoverable",
        "type": "integer"
      }
    }
  }
}
{"required": [{
  "type": "object"
}],
"rel": {
  "description": "The relation of the target URI referenced by the link to the context URI."
},
"oneOf": [
{ "default": [ "hosts" ],
  "items": {
    "maxLength": 64,
    "type": "string"
  },
  "minItems": 1,
  "type": "array"
},
{ "default": "hosts",
  "maxLength": 64,
  "type": "string"
}
]
},
"rt": {
  "description": "Resource Type of the Resource",
  "items": {
    "maxLength": 64,
    "type": "string"
  },
  "minItems": 1,
  "type": "array"
},
"title": {
  "description": "A title for the link relation. Can be used by the UI to provide a context."
},
"type": {
  "default": "application/cbor",
  "description": "A hint at the representation of the resource referenced by the target URI. This represents the media types that are used for both accepting and emitting."
},
"href",
"rt",
"title",
"type": "object"}
### B.7.5 Property Definition

**Table 251 The properties definitions of the resource**

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>rts</td>
<td>array: see</td>
<td></td>
<td>Read Write</td>
<td></td>
</tr>
<tr>
<td></td>
<td>schema</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>rt</td>
<td>array: see</td>
<td></td>
<td>Read Write</td>
<td></td>
</tr>
<tr>
<td></td>
<td>schema</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>n</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Friendly name of the resource</td>
</tr>
<tr>
<td>id</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Instance ID of this specific resource</td>
</tr>
<tr>
<td>links</td>
<td>array: see</td>
<td>No</td>
<td>Read Write</td>
<td>A set of simple or individual OIC Links.</td>
</tr>
<tr>
<td></td>
<td>schema</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>rts</td>
<td>array: see</td>
<td>No</td>
<td>Read Write</td>
<td></td>
</tr>
<tr>
<td></td>
<td>schema</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>rt</td>
<td>array: see</td>
<td>Yes</td>
<td>Read Write</td>
<td></td>
</tr>
<tr>
<td></td>
<td>schema</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>if</td>
<td>array: see</td>
<td>Yes</td>
<td>Read Only</td>
<td>The interface set supported by this resource</td>
</tr>
<tr>
<td></td>
<td>schema</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>rts</td>
<td>multiple types: see schema</td>
<td></td>
<td>Read Write</td>
<td>The list of allowable resource types (for Target and anchors) in links included in the collection</td>
</tr>
<tr>
<td>n</td>
<td>string</td>
<td></td>
<td>Read Only</td>
<td>Friendly name of the resource</td>
</tr>
<tr>
<td>id</td>
<td>string</td>
<td></td>
<td>Read Only</td>
<td>Instance ID of this specific resource</td>
</tr>
<tr>
<td>rt</td>
<td>array: see</td>
<td></td>
<td>Read Only</td>
<td>Resource Type</td>
</tr>
<tr>
<td></td>
<td>schema</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>if</td>
<td>array: see</td>
<td></td>
<td>Read Only</td>
<td>The interface set supported by this resource</td>
</tr>
<tr>
<td></td>
<td>schema</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>title</td>
<td>string</td>
<td>No</td>
<td>Read Write</td>
<td>A title for the link relation. Can be used by the UI to provide a context.</td>
</tr>
<tr>
<td>eps</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Write</td>
<td>the Endpoint information of the target Resource</td>
</tr>
<tr>
<td>------</td>
<td>-------------------</td>
<td>----</td>
<td>------------</td>
<td>------------------------------------------------</td>
</tr>
<tr>
<td>type</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Write</td>
<td>A hint at the representation of the resource referenced by the target URI. This represents the media types that are used for both accepting and emitting.</td>
</tr>
<tr>
<td>href</td>
<td>string</td>
<td>Yes</td>
<td>Read Write</td>
<td>This is the target URI, it can be specified as a Relative Reference or fully-qualified URI.</td>
</tr>
<tr>
<td>ins</td>
<td>integer</td>
<td>No</td>
<td>Read Write</td>
<td>The instance identifier for this web link in an array of web links - used in collections</td>
</tr>
<tr>
<td>di</td>
<td>string</td>
<td>No</td>
<td>Read Write</td>
<td>The Device ID formatted according to IETF RFC 4122.</td>
</tr>
<tr>
<td>p</td>
<td>object: see schema</td>
<td>No</td>
<td>Read Write</td>
<td>Specifies the framework policies on the Resource referenced by the target URI</td>
</tr>
<tr>
<td>anchor</td>
<td>string</td>
<td>No</td>
<td>Read Write</td>
<td>This is used to override the context URI e.g. override the URI of the containing collection.</td>
</tr>
<tr>
<td>rel</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>Read Write</td>
<td>The relation of the target URI referenced by</td>
</tr>
</tbody>
</table>
B.7.6 CRUDN behaviour

<table>
<thead>
<tr>
<th>Resource Type</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/AirQualityResURI</td>
<td>get</td>
<td></td>
<td></td>
<td></td>
<td>observe</td>
</tr>
</tbody>
</table>

B.8 Altimeter

B.8.1 Introduction

This resource describes the properties associated with altimeter. Altimeter is a height of the position (metres).

B.8.2 Example URI

/AltimeterResURI

B.8.3 Resource Type

The resource type (rt) is defined as: ['oic.r.altimeter'].

B.8.4 Swagger2.0 Definition

```json
{
    "swagger": "2.0",
    "info": {
        "title": "Altimeter",
        "version": "v1.1.0-20160519",
        "license": {
            "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
            "x-description": "Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:
1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.
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        }
    },
    "schemes": ["http"],
    "consumes": ["application/json"],
    "produces": ["application/json"],
    "paths": {
    
```
```
"/AltimeterResURI": {
  "get": {
    "description": "This resource describes the properties associated with
altimeter. Altimeter is a height of the position (metres). Retrieves the current the height of
the position (metres).",
    "parameters": [
      {"$ref": "#/parameters/interface"},
    ],
    "responses": {
      "200": {
        "description": "",
        "x-example": {
          "rt": ["oic.r.altimeter"],
          "id": "unique_example_id",
          "alt": 1500.0
        }
      },
      
    }
  }

  "parameters": {
    "interface": {
      "in": "query",
      "name": "if",
      "type": "string",
      "enum": ["oic.if.s", "oic.if.baseline"]
    }
  }

  "definitions": {
    "Altimeter": {
      "properties": {
        "rt": {
          "description": "Resource Type",
          "items": {
            "maxLength": 64,
            "type": "string"
          },
          "minItems": 1,
          "readOnly": true,
          "type": "array"
        },
        "precision": {
          "description": "Accuracy granularity of the exposed value",
          "readOnly": true,
          "type": "number"
        },
        "value": {
          "anyOf": [
            {"type": "array"},
            {"type": "string"},
            {"type": "boolean"},
            {"type": "integer"},
            {"type": "number"}
          ]
        }
      }
    }
  }
}
"n": {
  "description": "Friendly name of the resource",
  "maxLength": 64,
  "readOnly": true,
  "type": "string"
},

"range": {
  "description": "The valid range for the value Property",
  "items": [
    { "anyOf": ["number", "integer"] },
  "maxItems": 2,
  "minItems": 2,
  "readOnly": true,
  "type": "array"
},

"step": {
  "anyOf": ["integer", "number"]
},

"alt": {
  "description": "The current height of the position (metres)",
  "minimum": 0,
  "readOnly": true,
  "type": "number"
},

"id": {
  "description": "Instance ID of this specific resource",
  "maxLength": 64,
  "readOnly": true,
  "type": "string"
},

"if": {
  "description": "The interface set supported by this resource",
  "items": {
    "enum": ["oic.if.baseline"],
B.8.5 Property Definition

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>id</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Instance ID of this specific resource</td>
</tr>
<tr>
<td>alt</td>
<td>number</td>
<td>Yes</td>
<td>Read Only</td>
<td>The current height of the position (metres)</td>
</tr>
<tr>
<td>step</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>Step value across the defined range</td>
</tr>
<tr>
<td>rt</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>Resource Type</td>
</tr>
<tr>
<td>range</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>The valid range for the value Property</td>
</tr>
<tr>
<td>precision</td>
<td>number</td>
<td>No</td>
<td>Read Only</td>
<td>Accuracy granularity of the exposed value</td>
</tr>
<tr>
<td>value</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>Read Write</td>
<td>The value sensed or actuated by this Resource</td>
</tr>
<tr>
<td>n</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Friendly name of the Resource</td>
</tr>
<tr>
<td>if</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td></td>
</tr>
</tbody>
</table>

Table 253 The properties definitions of the resource
B.8.6 CRUDN behaviour

Table 254 The CRUDN operations of the resource

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/AltimeterResURI</td>
<td>get</td>
<td>offer</td>
<td>observe</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

B.9 Atmospheric Pressure Sensor

B.9.1 Introduction

This resource provides a measurement of Mean Sea Level Pressure experienced at the measuring point expressed in millibars. The value is float which describes the atmospheric pressure in hPa (hectoPascals). Note that hPa and the also commonly used unit of millibars (mbar) are numerically equivalent.

B.9.2 Example URI

/AtmosphericPressureResURI

B.9.3 Resource Type

The resource type (rt) is defined as: ['oic.r.sensor.atmosphericpressure'].

B.9.4 Swagger2.0 Definition

```json
{
    "swagger": "2.0",
    "info": {
        "title": "Atmospheric Pressure Sensor",
        "version": "v1.1.0-20160519",
        "license": {
            "name": "copyright Open Connectivity Foundation, Inc. All rights reserved.",
            "x-description": "Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:
1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.
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        }
    },
    "schemes": ["http"],
    "consumes": ["application/json"],
    "produces": ["application/json"],
    "paths": {
        "/AtmosphericPressureResURI": {
            "get": {
                "description": "This resource provides a measurement of Mean Sea Level Pressure experienced at the measuring point expressed in millibars. The value is float which describes the atmospheric pressure in hPa (hectoPascals). Note that hPa and the also commonly used unit of millibars (mbar) are numerically equivalent."
            },
            "parameters": [
                {"$ref": "#/parameters/interface"}
            ],
            "responses": {
```
"200": {
  "description": "",
  "x-example": {
    "rt": ["oic.r.sensor.atmosphericpressure"],
    "id": "unique_example_id",
    "atmosphericPressure": 1000.4
  }
},
"schema": { "$ref": "#/definitions/atmosphericPressure" }
}
}
"parameters": {
  "interface": {
    "in": "query",
    "name": "if",
    "type": "string",
    "enum": ["oic.if.s", "oic.if.baseline"]
  }
},
"definitions": {
  "atmosphericPressure": {
    "properties": {
      "rt": {
        "description": "Resource Type",
        "items": {
          "maxLength": 64,
          "type": "string"
        },
        "minItems": 1,
        "readOnly": true,
        "type": "array"
      },
      "atmosphericPressure": {
        "description": "Current atmospheric pressure in hPa.",
        "readOnly": true,
        "type": "number"
      }
    },
    "value": {
      "anyOf": {
        "type": "array"
      }
    }
  }
},
"n":
   { "description": "Friendly name of the resource",
   "maxLength": 64,
   "readOnly": true,
   "type": "string"
  },
  "range": {
    "description": "The valid range for the value Property",
    "items": [{
      "anyOf": [
        { "type": "number" },
        { "type": "integer" }
      ]
    },
    "maxItems": 2,
    "minItems": 2,
    "readOnly": true,
    "type": "array"
  },
  "precision": {
    "description": "Accuracy granularity of the exposed value",
    "readOnly": true,
    "type": "number"
  },
  "step": {
    "anyOf": [
      { "type": "integer" },
      { "type": "number" }
    ],
    "description": "Step value across the defined range",
    "readOnly": true
  },
  "id": {
    "description": "Instance ID of this specific resource",
    "maxLength": 64,
    "readOnly": true,
    "type": "string"
  },
  "if": {
    "description": "The interface set supported by this resource",
    "items": [{
      "enum": ["oic.if.baseline", "oic.if.ll", "oic.if.b", "oic.if.lb", "oic.if.rw", "oic.if.s", "oic.if.z", "oic.if.z"],
      "type": "string"
    },
    "type": "string"
  },
B.9.5 Property Definition

Table 255 The properties definitions of the resource

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>if</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>The interface set supported by this resource</td>
</tr>
<tr>
<td>n</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Friendly name of the resource</td>
</tr>
<tr>
<td>rt</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>Resource Type</td>
</tr>
<tr>
<td>value</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>Read Write</td>
<td>The value sensed or actuated by this Resource</td>
</tr>
<tr>
<td>id</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Instance ID of this specific resource</td>
</tr>
<tr>
<td>step</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>Step value across the defined range</td>
</tr>
<tr>
<td>atmosphericPressure</td>
<td>number</td>
<td>Yes</td>
<td>Read Only</td>
<td>Current atmospheric pressure in hPa.</td>
</tr>
<tr>
<td>range</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>The valid range for the value Property</td>
</tr>
<tr>
<td>precision</td>
<td>number</td>
<td>No</td>
<td>Read Only</td>
<td>Accuracy granularity of the exposed value</td>
</tr>
</tbody>
</table>

B.9.6 CRUDN behaviour

Table 256 The CRUDN operations of the resource

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/AtmosphericPressureResURI</td>
<td>get</td>
<td></td>
<td></td>
<td></td>
<td>observe</td>
</tr>
</tbody>
</table>
B.10 Audio Controls

B.10.1 Introduction

This resource defines basic audio control functions. The volume is an integer containing a percentage [0,100]. A volume of 0 (zero) means no sound produced. A volume of 100 means maximum sound production. The mute control is implemented as a boolean. A mute value of true means that the device is muted (no audio). A mute value of false means that the device is not muted (audio).

B.10.2 Example URI

/AudioResURI

B.10.3 Resource Type

The resource type (rt) is defined as: ['oic.r.audio'].

B.10.4 Swagger2.0 Definition

```json
{
    "swagger": "2.0",
    "info": {
        "title": "Audio Controls",
        "version": "v1.1.0-20160519",
        "license": {
            "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
            "x-description": "Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

            1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
            2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.

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        }
    },
    "schemes": ["http"],
    "produces": ["application/json"],
    "paths": {
        "/AudioResURI": {
            "get": {
                "description": "This resource defines basic audio control functions. The volume is an integer containing a percentage [0,100]. A volume of 0 (zero) means no sound produced. A volume of 100 means maximum sound production. The mute control is implemented as a boolean. A mute value of true means that the device is muted (no audio). A mute value of false means that the device is not muted (audio).",
                "parameters": [
                    {"$ref": "/parameters/interface"}
                ],
                "responses": {
                    "200": {
                        "description": ",
                        "x-example": {
                            "rt": ["oic.r.audio"],
                            "id": "unique_example_id",
                            "volume": 50,
                            "mute": false
                        }
                    }
                }
            }
        }
    }
}
```
"schema": { "$ref": "#/definitions/Audio" }
}
"post": {
"description": "",
"parameters": [
{"$ref": "#/parameters/interface"},
{
"name": "body",
"in": "body",
"required": true,
"schema": { "$ref": "#/definitions/Audio" },
"x-example":
{
"id": "unique_example_id",
"volume": 75,
"mute": false
}
}
],
"responses": {
"200": {
"description": "",
"x-example":
{
"id": "unique_example_id",
"volume": 75,
"mute": false
}
},
"parameters": {
"interface": {
"in": "query",
"name": "if",
"type": "string",
"enum": ["oic.if.a", "oic.if.baseline"]
}
},
"definitions": {
"Audio": {
"properties": {
"rt": {
"description": "Resource Type",
"items": {
"maxLength": 64,
"type": "string"
},
"minItems": 1,
"readOnly": true,
"type": "array"
},
"mute": {
"description": "Mute setting of an audio rendering device",
"type": "boolean"
},
"precision": {
"description": "Accuracy granularity of the exposed value",
"readOnly": true,
"type": "number"
}


```json
{
  "value": {
    "anyOf": [
      {
        "type": "array"
      },
      {
        "type": "string"
      },
      {
        "type": "boolean"
      },
      {
        "type": "integer"
      },
      {
        "type": "number"
      },
      {
        "type": "object"
      }
    ],
    "description": "The value sensed or actuated by this Resource"
  },
  "n": {
    "description": "Friendly name of the resource",
    "maxLength": 64,
    "readOnly": true,
    "type": "string"
  },
  "volume": {
    "description": "Volume setting of an audio rendering device.",
    "maximum": 100,
    "minimum": 0,
    "type": "integer"
  },
  "range": {
    "description": "The valid range for the value Property",
    "items": {
      "anyOf": [
        {
          "type": "number"
        },
        {
          "type": "integer"
        }
      ],
      "maxItems": 2,
      "minItems": 2,
      "readOnly": true,
      "type": "array"
    },
    "step": {
      "anyOf": [
        {
          "type": "integer"
        },
        {
          "type": "number"
        }
      ]
    }
  }
}
```
<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>n</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Friendly name of the resource</td>
</tr>
<tr>
<td>range</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>The valid range for the value Property</td>
</tr>
<tr>
<td>rt</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>Resource Type</td>
</tr>
<tr>
<td>mute</td>
<td>boolean</td>
<td>Yes</td>
<td>Read Write</td>
<td>Mute setting of an audio rendering device</td>
</tr>
<tr>
<td>value</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>Read Write</td>
<td>The value sensed or actuated by this Resource</td>
</tr>
<tr>
<td>Step</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>Step value across the defined range</td>
</tr>
<tr>
<td>------</td>
<td>-----------------------------</td>
<td>----</td>
<td>-----------</td>
<td>--------------------------------------</td>
</tr>
<tr>
<td>id</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Instance ID of this specific resource</td>
</tr>
<tr>
<td>if</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>The interface set supported by this resource</td>
</tr>
<tr>
<td>volume</td>
<td>integer</td>
<td>Yes</td>
<td>Read Write</td>
<td>Volume setting of an audio rendering device</td>
</tr>
<tr>
<td>precision</td>
<td>number</td>
<td>No</td>
<td>Read Only</td>
<td>Accuracy granularity of the exposed value</td>
</tr>
</tbody>
</table>

**B.10.6 CRUDN behaviour**

Table 258: The CRUDN operations of the resource

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/AudioResURI</td>
<td>get</td>
<td>post</td>
<td></td>
<td></td>
<td>observe</td>
</tr>
</tbody>
</table>

**B.11 Auto Focus**

**B.11.1 Introduction**

This resource describes an auto focus on/off feature. The value is a boolean. An AutoFocus value of 'true' means that the switch is on. An AutoFocus value of 'false' means that the switch is off. Note that when Pan Tilt Zoom (see 'Pan Tilt Zoom' Resource definition) is used the autofocus works only in the selected area.

**B.11.2 Example URI**

/AutoFocusResURI

**B.11.3 Resource Type**

The resource type (rt) is defined as: ['oic.r.autofocus'].

**B.11.4 Swagger2.0 Definition**

```json
{
    "swagger": "2.0",
    "info": {
        "title": "Auto Focus",
        "version": "v1.1.0-20160519",
        "license": {
            "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved."
        }
    }
}
```
"schemes": ["http"],
"consumes": ["application/json"],
"produces": ["application/json"],
"paths": {
  "/AutoFocusResURI": {
    "get": {
      "description": "This resource describes an auto focus on/off feature. The value is a boolean. An AutoFocus value of 'true' means that the switch is on. An AutoFocus value of 'false' means that the switch is off. Note that when Pan Tilt Zoom (see 'Pan Tilt Zoom' Resource definition) is used the autofocus works only in the selected area."
    },
    "parameters": [
      {"$ref": "#/parameters/interface"}
    ],
    "responses": {
      "200": {
        "description": "",
        "x-example": {
          "rt": ["oic.r.autofocus"],
          "id": "unique_example_id",
          "autoFocus": false
        }
      },
      "schema": { "$ref": "#/definitions/AutoFocus" }
    }
  },
  "post": {
    "description": "",
    "parameters": [
      {"$ref": "#/parameters/interface"},
      {
        "name": "body",
        "in": "body",
        "required": true,
        "schema": { "$ref": "#/definitions/AutoFocus" },
        "x-example": {
          "id": "unique_example_id",
          "autoFocus": true
        }
      }
    ],
    "responses": {
      "200": {
        "description": "",
        "x-example": {
          "id": "unique_example_id",
          "autoFocus": true
        }
      },
      "schema": { "$ref": "#/definitions/AutoFocus" }
    }
  }
},
"parameters": {
  "interface": {
    "in" : "query",
    "description": "",
    "schema": { "$ref": "#/definitions/AutoFocus" }
  }
},
"schemes": ["http"],
"consumes": ["application/json"],
"produces": ["application/json"],
"paths": {
  "/AutoFocusResURI": {
    "get": {
      "description": "This resource describes an auto focus on/off feature. The value is a boolean. An AutoFocus value of 'true' means that the switch is on. An AutoFocus value of 'false' means that the switch is off. Note that when Pan Tilt Zoom (see 'Pan Tilt Zoom' Resource definition) is used the autofocus works only in the selected area."
    },
    "parameters": [
      {"$ref": "#/parameters/interface"}
    ],
    "responses": {
      "200": {
        "description": "",
        "x-example": {
          "rt": ["oic.r.autofocus"],
          "id": "unique_example_id",
          "autoFocus": false
        }
      },
      "schema": { "$ref": "#/definitions/AutoFocus" }
    }
  },
  "post": {
    "description": "",
    "parameters": [
      {"$ref": "#/parameters/interface"},
      {
        "name": "body",
        "in": "body",
        "required": true,
        "schema": { "$ref": "#/definitions/AutoFocus" },
        "x-example": {
          "id": "unique_example_id",
          "autoFocus": true
        }
      }
    ],
    "responses": {
      "200": {
        "description": "",
        "x-example": {
          "id": "unique_example_id",
          "autoFocus": true
        }
      },
      "schema": { "$ref": "#/definitions/AutoFocus" }
    }
  }
},
"parameters": {
  "interface": {
    "in" : "query",
    "description": "",
    "schema": { "$ref": "#/definitions/AutoFocus" }
  }
}
"name": "if",
"type": "string",
"enum": ["oic.if.a", "oic.if.baseline"]
}
",
"definitions": {
"AutoFocus": {
"properties": {
"rt": {
"description": "Resource Type",
"items": {
"maxLength": 64,
"type": "string"
},
"minItems": 1,
"readOnly": true,
"type": "array"
},
"precision": {
"description": "Accuracy granularity of the exposed value",
"readOnly": true,
"type": "number"
},
"value": {
"anyOf": [null,
{ "type": "array" },
{ "type": "string" },
{ "type": "boolean" },
{ "type": "integer" },
{ "type": "number" },
{ "type": "object" }
],
"description": "The value sensed or actuated by this Resource"
},
"n": {
"description": "Friendly name of the resource",
"maxLength": 64,
"readOnly": true,
"type": "string"
},
"range": {
"description": "The valid range for the value Property",
"items": [null,
{ "anyOf": [null,
{ "type": "number" },
{ "type": "integer" }
] }
] },
B.11.5 Property Definition

Table 259 The properties definitions of the resource

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>id</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td></td>
</tr>
</tbody>
</table>
### B.11.6 CRUDN behaviour

<table>
<thead>
<tr>
<th>Instance ID of this specific resource</th>
<th>Resource Type</th>
<th>Accuracy granularity of the exposed value</th>
<th>Step value across the defined range</th>
<th>The valid range for the value Property</th>
<th>Status of the Auto Focus</th>
<th>The value sensed or actuated by this Resource</th>
<th>Friendly name of the resource</th>
</tr>
</thead>
<tbody>
<tr>
<td>precision</td>
<td>number</td>
<td>No</td>
<td>Read Only</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>rt</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>if</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>step</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>Read Only</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>range</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>autoFocus</td>
<td>boolean</td>
<td>Yes</td>
<td>Read Write</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>value</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>Read Write</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Table 260 The CRUDN operations of the resource**

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/AutoFocusResURI</td>
<td></td>
<td>get</td>
<td>post</td>
<td></td>
<td>observe</td>
</tr>
</tbody>
</table>

### B.12 Automatic Document Feeder

#### B.12.1 Introduction
This resource describes the state of an automatic document feeder, typically used with a scanner.

The states are read only.
The `adfStates` is an array of the possible operational states.

`adfProcessing` is the OK state, other states are errors or require ‘user attention’.

The `currentAdfState` is the current value of the ADF state on the device.

#### B.12.2 Example URI

/`AutomaticDocumentFeederResURI`

#### B.12.3 Resource Type

The resource type (rt) is defined as: ["oic.r.automaticdocumentfeeder"].
B.12.4 Swagger2.0 Definition

```json
{
    "swagger": "2.0",
    "info": {
        "title": "Automatic Document Feeder",
        "version": "v1.1.0-20160519",
        "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved."
    }
}
```

```
"x-description": "Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:"

```
1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.

```
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```
"description": "array of the possible adf states.",
"items": {
  "type": "string"
},
"readOnly": true,
"type": "array"
},
"rt": {
  "description": "Resource Type",
  "items": {
    "maxLength": 64,
    "type": "string"
  },
  "minItems": 1,
  "readOnly": true,
  "type": "array"
},
"precision": {
  "description": "Accuracy granularity of the exposed value",
  "readOnly": true,
  "type": "number"
},
"value": {
  "anyOf": [
    {"type": "array"},
    {"type": "string"},
    {"type": "boolean"},
    {"type": "integer"},
    {"type": "number"},
    {"type": "object"}
  ],
  "description": "The value sensed or actuated by this Resource"
},
"n": {
  "description": "Friendly name of the resource",
  "maxLength": 64,
  "readOnly": true,
  "type": "string"
},
"range": {
  "description": "The valid range for the value Property",
  "items": {
    "anyOf": [
      {"type": "number"}
    ]
  },
  "type": "integer"
"step": {
  "anyOf": [
    {
      "type": "integer"
    },
    {
      "type": "number"
    }
  ],
  "description": "Step value across the defined range",
  "readOnly": true
},
"currentAdfState": {
  "description": "Current adf state",
  "readOnly": true,
  "type": "string"
},
"id": {
  "description": "Instance ID of this specific resource",
  "maxLength": 64,
  "readOnly": true,
  "type": "string"
},
"if": {
  "description": "The interface set supported by this resource",
  "items": [
    "enum": [
      "oic.if.baseline",
      "oic.if.ll",
      "oic.if.l",
      "oic.if.lb",
      "oic.if.r",
      "oic.if.rw",
      "oic.if.a",
      "oic.if.s"
    ],
    "type": "string"
  ],
  "minItems": 1,
  "readOnly": true,
  "type": "array"
},
"type": "object",
"required": ["adfStates", "currentAdfState"]}
### B.12.5 Property Definition

**Table 261 The properties definitions of the resource**

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>range</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>The valid range for the value Property</td>
</tr>
<tr>
<td>step</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>Step value across the defined range</td>
</tr>
<tr>
<td>rt</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>Resource Type</td>
</tr>
<tr>
<td>precision</td>
<td>number</td>
<td>No</td>
<td>Read Only</td>
<td>Accuracy granularity of the exposed value</td>
</tr>
<tr>
<td>value</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>Read Write</td>
<td>The value sensed or actuated by this Resource</td>
</tr>
<tr>
<td>if</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>The interface set supported by this resource</td>
</tr>
<tr>
<td>id</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Instance ID of this specific resource</td>
</tr>
<tr>
<td>currentAdfState</td>
<td>string</td>
<td>Yes</td>
<td>Read Only</td>
<td>Current adf state.</td>
</tr>
<tr>
<td>adfStates</td>
<td>array: see schema</td>
<td>Yes</td>
<td>Read Only</td>
<td>array of the possible adf states.</td>
</tr>
<tr>
<td>n</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Friendly name of the resource</td>
</tr>
</tbody>
</table>

### B.12.6 CRUDN behaviour

**Table 262 The CRUDN operations of the resource**

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/AutomaticDocumentFeederResURI</td>
<td>get</td>
<td></td>
<td></td>
<td></td>
<td>observe</td>
</tr>
</tbody>
</table>

### B.13 Base Resource Schema

#### B.13.1 Introduction

This is the base resource schema on which all other resources defined in this specification build.

- value is the sensed or actuated value of the Resource.
- precision is the accuracy granularity of the value.
- range is the range over which value is valid.
step is the step function over the defined range if applicable (e.g. always step by '2').

B.13.2 Example URI
/BaseResourceSchemaResURI

B.13.3 Resource Type
The resource type (rt) is defined as: ['oic.baseresource'].

B.13.4 Swagger2.0 Definition

```json
{
    "swagger": "2.0",
    "info": {
        "title": "Base Resource Schema",
        "version": "v1.1.0-20160519",
        "license": {
            "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
            "x-description": "Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:
            1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer, in full version of the Resource.
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"
        }
    },
    "schemes": ["http"],
    "consumes": ["application/json"],
    "produces": ["application/json"],
    "paths": {
        "/BaseResourceSchemaResURI" : {
            "get": {
                "description": "This is the base resource schema on which all other resources defined in this specification build.\nvalue is the sensed or actuated value of the Resource.\nprecision is the accuracy granularity of the value.\nrange is the range over which value is valid.\nstep is the step function over the defined range if applicable (e.g. always step by '2').\nretrieves the state of the resource.",
                "parameters": [
                    {"$ref": "#/parameters/interface-baseline"}
                ],
                "responses": {
                    "200": {
                        "description": "",
                        "x-example": {
                            "rt" : ["oic.baseresource"],
                            "if" : ["oic.if.baseline"],
                            "id" : "unique_example_id",
                            "value" : 10.5,
                            "precision" : 0.5,
                            "range" : [0.0,100.0]
                        }
                    }
                }
            },
            "post": {
                "description": "sets the read-write resource properties",
                "parameters": [
                    {"$ref": "#/parameters/interface-a"},
```
"name": "body",
"in": "body",
"required": true,
"schema": { "$ref": "#/definitions/base" },
"x-example":
{ "value": 20.5
}
],
"responses": {
"200": {
"description": "",
"x-example":
{ "value": 20.5
}
},
"schema": { "$ref": "#/definitions/base" }
}

"parameters": {
"interface-a" : {
"in": "query",
"name": "if",
"type": "string",
"enum": ["oic.if.a"]
},
"interface-baseline" : {
"in": "query",
"name": "if",
"type": "string",
"enum": ["oic.if.baseline"]
}
},
"definitions": {
"base" : {
"properties": {
"step": {
"anyOf": [
{ "type": "integer"
}],
"type": "number"
}
},
"description": "Step value across the defined range",
"readOnly": true
}
},
"range": {
"description": "The valid range for the value Property",
"items": { "anyOf": [
{ "type": "number"
}]
},
"type": "integer"
}
},
"maxItems": 2,
"minItems": 2,
B.13.5 Property Definition

Table 263 The properties definitions of the resource

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>precision</td>
<td>number</td>
<td></td>
<td>Read Only</td>
<td>Accuracy granularity of the exposed value</td>
</tr>
<tr>
<td>value</td>
<td>multiple types: see schema</td>
<td></td>
<td>Read Write</td>
<td>The value sensed or actuated by this Resource</td>
</tr>
<tr>
<td>range</td>
<td>array: see schema</td>
<td></td>
<td>Read Only</td>
<td>The valid range for the value Property</td>
</tr>
<tr>
<td>step</td>
<td>multiple types: see schema</td>
<td></td>
<td>Read Only</td>
<td>Step value across the defined range</td>
</tr>
<tr>
<td>precision</td>
<td>number</td>
<td></td>
<td>Read Only</td>
<td></td>
</tr>
<tr>
<td>Value</td>
<td>Multiple types: see schema</td>
<td>Read Write</td>
<td>Accuracy granularity of the exposed value</td>
<td></td>
</tr>
<tr>
<td>-----------</td>
<td>----------------------------</td>
<td>------------</td>
<td>-------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>Step</td>
<td>Multiple types: see schema</td>
<td>Read Only</td>
<td>The value sensed or actuated by this Resource</td>
<td></td>
</tr>
<tr>
<td>Range</td>
<td>Array: see schema</td>
<td>Read Only</td>
<td>The valid range for the value Property</td>
<td></td>
</tr>
</tbody>
</table>

### B.13.6 CRUDN behaviour

Table 264 The CRUDN operations of the resource

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/BaseResourceSchemaResURI</td>
<td>Get</td>
<td>Post</td>
<td></td>
<td></td>
<td>Observe</td>
</tr>
</tbody>
</table>

### B.14 Battery

#### B.14.1 Introduction

This resource describes the attributes associated with a battery. The charge is an integer showing the current battery charge level as a percentage in the range 0 (fully discharged) to 100 (fully charged). The capacity represents the total capacity of battery in Amp Hours (Ah). The charging status and discharging status are represented by boolean values set to "True" indicating enabled and "False" indicating disabled. Low battery status is represented by a boolean value set to "True" indicating low charge level and "False" indicating otherwise, based upon the battery threshold represented as a percentage.

#### B.14.2 Example URI

/BatteryResURI

#### B.14.3 Resource Type

The resource type (rt) is defined as: ['oic.r.energy.battery'].

#### B.14.4 Swagger2.0 Definition

```json
{
   "swagger": "2.0",
   "info": {
      "title": "Battery",
      "version": "v1.2.0-20170814",
      "license": {
         "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
         "x-description": "Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.

2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.

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IN NO EVENT SHALL THE Open Connectivity Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS
```
"schemes": ["http"],
"consumes": ["application/json"],
"produces": ["application/json"],
"paths": {
"/BatteryResURI": {
  "get": {
    "description": "This resource describes the attributes associated with a battery. The charge is an integer showing the current battery charge level as a percentage in the range 0 (fully discharged) to 100 (fully charged). The capacity represents the total capacity of battery in Amp Hours (Ah). The charging status and discharging status are represented by boolean values set to "True" indicating enabled and "False" indicating disabled. Low battery status is represented by a boolean value set to "True" indicating low charge level and "False" indicating otherwise, based upon the battery threshold represented as a percentage.\nRetrieves the state of the battery.\n",
"parameters": ["$ref": "/parameters/interface"],
"responses": {
  "200": {
    "description": "",
    "x-example": {
      "rt": ["oic.r.energy.battery"],
      "id": "unique_example_id",
      "charge": 50,
      "capacity": 3000,
      "charging": true,
      "discharging": false,
      "lowbattery": false,
      "batterythreshold": 20
    }
  },
  "schema": { "$ref": "/definitions/Battery" }
},
"post": {
  "description": "Sets current battery values\n",
  "parameters": ["$ref": "/parameters/interface"],
  "required": true,
  "schema": { "$ref": "/definitions/BatteryUpdate" },
  "x-example": {
    "id": "unique_example_id",
    "batterythreshold": 20
  }
},
"responses": {
  "200": {
    "description": "",
    "x-example": {
      "id": "unique_example_id",
      "batterythreshold": 20
    }
  },
  "schema": { "$ref": "/definitions/BatteryUpdate" }
}
"parameters": {
  "interface": {
    "in": "query",
    "name": "if",
    "type": "string",
    "enum": ["oic.if.rw", "oic.if.baseline"]
  }
},
"definitions": {
  "Battery": {
    "properties": {
      "rt": {
        "description": "Resource Type",
        "items": {
          "maxLength": 64,
          "type": "string"
        },
        "minItems": 1,
        "readOnly": true,
        "type": "array"
      },
      "discharging": {
        "description": "The status of discharging.",
        "readOnly": true,
        "type": "boolean"
      },
      "lowbattery": {
        "description": "The status of the low battery warning based upon the defined threshold.",
        "readOnly": true,
        "type": "boolean"
      },
      "capacity": {
        "description": "The total capacity in Amp-hours (Ah).",
        "readOnly": true,
        "type": "number"
      },
      "precision": {
        "description": "Accuracy granularity of the exposed value",
        "readOnly": true,
        "type": "number"
      },
      "value": {
        "anyOf": [
          { "type": "array" },
          { "type": "string" },
          { "type": "boolean" },
          { "type": "integer" },
          { "type": "number" }
        ]
      }
    }
  }
}
{
  "type": "object"
},
  "description": "The value sensed or actuated by this Resource",
},
  "id": {
    "description": "Instance ID of this specific resource",
    "maxLength": 64,
    "readOnly": true,
    "type": "string"
  },
  "batterythreshold": {
    "description": "The threshold percentage for the low battery warning.",
    "maximum": 100,
    "minimum": 0,
    "readOnly": true,
    "type": "integer"
  },
  "charge": {
    "description": "The current charge percentage.",
    "maximum": 100,
    "minimum": 0,
    "readOnly": true,
    "type": "integer"
  },
  "step": {
    "description": "Step value across the defined range",
    "readOnly": true
  },
  "range": {
    "description": "The valid range for the value Property",
    "items": {
      "anyOf": [{
        "type": "integer"
      },
      {"type": "number"
    }]
  },
  "n": {
    "description": "Friendly name of the resource",
    "maxLength": 64,
    "readOnly": true,
    "type": "string"
"charging": {
  "description": "The status of charging.",
  "readOnly": true,
  "type": "boolean"
},
"if": {
  "description": "The interface set supported by this resource",
  "items": {
    "enum": [
      "oic.if.baseline",
      "oic.if.ll",
      "oic.if.b",
      "oic.if.lb",
      "oic.if.rw",
      "oic.if.z",
      "oic.if.s",
      "oic.if.a"
    ],
    "type": "string"
  },
  "minItems": 1,
  "readOnly": true,
  "type": "array"
},
"BatteryUpdate": {
  "properties": {
    "rt": {
      "description": "Resource Type",
      "items": {
        "maxLength": 64,
        "type": "string"
      },
      "minItems": 1,
      "readOnly": true,
      "type": "array"
    },
    "precision": {
      "description": "Accuracy granularity of the exposed value",
      "readOnly": true,
      "type": "number"
    },
    "value": {
      "anyOf": [
        {
          "type": "array"
        },
        {
          "type": "string"
        },
        {
          "type": "boolean"
        },
        {
          "type": "integer"
        }
      ]
    }
  }
}


```json
{
  "type": "number"
}
{
  "type": "object"
}
{"description": "The value sensed or actuated by this Resource"
},
"n" : {
  "description": "Friendly name of the resource",
  "maxLength": 64,
  "readOnly": true,
  "type": "string"
},
"batterythreshold" : {
  "description": "The threshold percentage for the low battery warning."
},
"range" : {
  "description": "The valid range for the value Property",
  "items": {
    "anyOf": [
      {
        "type": "number"
      },
      {
        "type": "integer"
      }
    ]
  }
},
"step" : {
  "anyOf": [
    {
      "type": "integer"
    },
    {
      "type": "number"
    }
  ],
  "description": "Step value across the defined range",
  "readOnly": true
},
"id" : {
  "description": "Instance ID of this specific resource",
  "maxLength": 64,
  "readOnly": true,
  "type": "string"
},
"if" : {
  "description": "The interface set supported by this resource",
  "items": {

B.14.5 Property Definition

Table 265 The properties definitions of the resource

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>rt</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>Resource Type</td>
</tr>
<tr>
<td>range</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>The valid range for the value Property</td>
</tr>
<tr>
<td>step</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>Step value across the defined range</td>
</tr>
<tr>
<td>value</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>Read Write</td>
<td>The value sensed or actuated by this Resource</td>
</tr>
<tr>
<td>batterythreshold</td>
<td>integer</td>
<td>No</td>
<td>Read Write</td>
<td>The threshold percentage for the low battery warning.</td>
</tr>
<tr>
<td>id</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Instance ID of this specific resource</td>
</tr>
<tr>
<td>lowbattery</td>
<td>boolean</td>
<td>No</td>
<td>Read Only</td>
<td>The status of the low battery warning based upon the defined threshold.</td>
</tr>
<tr>
<td>charging</td>
<td>boolean</td>
<td>No</td>
<td>Read Only</td>
<td></td>
</tr>
<tr>
<td>Property</td>
<td>Type</td>
<td>Format</td>
<td>Read/Write</td>
<td>Description</td>
</tr>
<tr>
<td>------------------</td>
<td>------------</td>
<td>--------</td>
<td>------------</td>
<td>-----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>n</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Friendly name of the resource</td>
</tr>
<tr>
<td>capacity</td>
<td>number</td>
<td>No</td>
<td>Read Only</td>
<td>The total capacity in Amp-hours (Ah).</td>
</tr>
<tr>
<td>charge</td>
<td>integer</td>
<td>Yes</td>
<td>Read Only</td>
<td>The current charge percentage.</td>
</tr>
<tr>
<td>precision</td>
<td>number</td>
<td>No</td>
<td>Read Only</td>
<td>Accuracy granularity of the exposed value</td>
</tr>
<tr>
<td>if</td>
<td>array: see</td>
<td>No</td>
<td>Read Only</td>
<td>The interface set supported by this resource</td>
</tr>
<tr>
<td>discharging</td>
<td>boolean</td>
<td>No</td>
<td>Read Only</td>
<td>The status of discharging.</td>
</tr>
<tr>
<td>rt</td>
<td>array: see</td>
<td>No</td>
<td>Read Only</td>
<td>Resource Type</td>
</tr>
<tr>
<td>range</td>
<td>array: see</td>
<td>No</td>
<td>Read Only</td>
<td>The valid range for the value Property</td>
</tr>
<tr>
<td>step</td>
<td>multiple</td>
<td>No</td>
<td>Read Only</td>
<td>Step value across the defined range</td>
</tr>
<tr>
<td>n</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Friendly name of the resource</td>
</tr>
<tr>
<td>if</td>
<td>array: see</td>
<td>No</td>
<td>Read Only</td>
<td>The interface set supported by this resource</td>
</tr>
<tr>
<td>id</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Instance ID of this specific resource</td>
</tr>
<tr>
<td>precision</td>
<td>number</td>
<td>No</td>
<td>Read Only</td>
<td>Accuracy granularity of the exposed value</td>
</tr>
<tr>
<td>value</td>
<td>multiple</td>
<td>No</td>
<td>Read Write</td>
<td>The value sensed or actuated by this Resource</td>
</tr>
<tr>
<td>batterythreshold</td>
<td>integer</td>
<td>Yes</td>
<td>Read Write</td>
<td></td>
</tr>
</tbody>
</table>
The threshold percentage for the low battery warning.

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/BatteryResURI</td>
<td>get</td>
<td>post</td>
<td></td>
<td></td>
<td>observe</td>
</tr>
</tbody>
</table>

### B.14.6 CRUDN behaviour

Table 266 The CRUDN operations of the resource

### B.15 Battery Material

#### B.15.1 Introduction

This resource describes the battery material represented as an enumerated set of strings.

#### B.15.2 Example URI

/BatteryMaterialResURI

#### B.15.3 Resource Type

The resource type (rt) is defined as: ['oic.r.batterymaterial'].

#### B.15.4 Swagger2.0 Definition

```json
{
    "swagger": "2.0",
    "info": {
        "title": "Battery Material",
        "version": "v1.1.0-20170815",
        "license": {
            "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
            "x-description": "Redistribution and use in source and binary forms, with or without
            modification, are permitted provided that the following conditions are met:
            1. Redistributions of source code must retain the above copyright notice, this list of
            conditions and the following disclaimer.
            2. Redistributions in binary form must reproduce the above
            copyright notice, this list of conditions and the following disclaimer in the documentation and/or
            other materials provided with the distribution.
            THIS SOFTWARE IS PROVIDED BY THE Open
            Connectivity Foundation, INC. "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
            LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR
            WARRANTIES OF NON-INFRINGEMENT, ARE DISCLAIMED.
            IN NO EVENT SHALL THE Open Connectivity
            Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL,
            EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS
            OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
            HOWEVER CAUSED AND
            ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR
            OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY
            OF SUCH DAMAGE.
            
            Redistributions of source code must retain the above copyright notice, this list of conditions and
            the following disclaimer.
            Redistributions in binary form must reproduce the above
            copyright notice, this list of conditions and the following disclaimer in the documentation and/or
            other materials provided with the distribution.
            THIS SOFTWARE IS PROVIDED BY THE Open
            Connectivity Foundation, INC. "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
            LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR
            WARRANTIES OF NON-INFRINGEMENT, ARE DISCLAIMED.
            IN NO EVENT SHALL THE Open Connectivity
            Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL,
            EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS
            OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
            HOWEVER CAUSED AND
            ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR
            OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY
            OF SUCH DAMAGE.
        }
    },
    "schemes": ["http"],
    "consumes": ["application/json"],
    "produces": ["application/json"],
    "paths": {
        "/BatteryMaterialResURI": {
            "get": {
                "description": "This resource describes the battery material represented as an enumerated
                set of strings.\nRetrieves the battery material.\n",
                "parameters": ["$ref": "/parameters/interface"
                ],
                "responses": {
                    "200": {
                        "description": ",
                        "x-example": {
                            "rt": ["oic.r.batterymaterial"]
                        }
                    }
                }
            }
        }
    }
}
```
"id": "unique_example_id",
"material": "Alkaline"
}

"schema": { "$ref": "#/definitions/BatteryMaterial" }
}

"parameters": {
"interface": {
"in": "query",
"name": "if",
"type": "string",
"enum": ["oic.if.s", "oic.if.baseline"]
}
}

"definitions": {
"BatteryMaterial": {
"properties": {
"rt": {
"description": "Resource Type",
"items": {
"maxLength": 64,
"type": "string"
},
"minItems": 1,
"readOnly": true,
"type": "array"
},

"material": {
"description": "Battery construction material (type).",
"enum": ["Alkaline",
"Aluminium Air",
"Aluminium Ion",
"Atomic Betavoltaics",
"Atomic Optoelectric Nuclear",
"Atomic Nuclear",
"Bunsen Cell",
"Chromic Acid Cell",
"Foggendorff Cell",
"Clark Cell",
"Daniell Cell",
"Dry Cell",
"Earth",
"Flow",
"Flow Vanadium Redox",
"Flow Zinc Bromine",
"Flow Zinc Cerium",
"Frog",
"Fuel",
"Galvanic Cell",
"Glass",
"Grove Cell",
"Lead Acid",
"Lead Acid Deep Cycle",
"Lead Acid VRLA",
"Lead Acid AGM",
"Lead Acid Gel",
"Leclancher Cell",
"Lemon Potato",
"Lithium",
"Lithium Air",
"Lithium Ion",
"Lithium Ion Cobalt Oxide (ICR)",
"Lithium Ion Manganese Oxide (IMR)",
}
"Lithium Ion Polymer",
"Lithium Iron Phosphate",
"Lithium Sulfur",
"Lithium Titanate",
"Lithium Ion Thin Film",
"Magnesium",
"Magnesium Ion",
"Mercury",
"Molten Salt",
"Nickel Cadmium",
"Nickel Cadmium Vented Cell",
"Nickel Hydrogen",
"Nickel Iron",
"Nickel Metal Hydride",
"Nickel Metal Hydride Low Self-Discharge",
"Nickel Oxide",
"Nickel Oxyhydroxide",
"Nickel Oxyride",
"Nickel Zinc",
"Organic Radical",
"Paper",
"Polymer Based",
"Polysulfide Bromide",
"Potassium Ion",
"Pulvermachers Chain",
"Silicon Air",
"Silver Calcium",
"Silver Oxide",
"Silver Zinc",
"Sodium Ion",
"Sodium Sulfur",
"Solid State",
"Sugar",
"Super Iron",
"UltraBattery",
"Voltaic File",
"Voltaic File Penny",
"Voltaic File Trough",
"Water Activated",
"Weston Cell",
"Zinc Air",
"Zinc Carbon",
"Zinc Chloride",
"Zinc Ion",
"Unknown"
],
"readOnly": true,
"type": "string"},

"precision": {
  "description": "Accuracy granularity of the exposed value",
  "readOnly": true,
  "type": "number"
},

"value": {
  "anyOf": [
    { "type": "array" },
    { "type": "string" },
    { "type": "boolean" },
    { "type": "integer" }
  ]
}
{  
"type": "number"
},
{"type": "object"
}
{"description": "The value sensed or actuated by this Resource"
},

"n" : 
{"description": "Friendly name of the resource",
"maxLength": 64,
"readOnly": true,
"type": "string"
},

"range" : 
{"description": "The valid range for the value Property",
"items": [
  
  "anyOf": [
    
    "type": "number"
  ],
  
  "type": "integer"
],

"maxItems": 2,
"minItems": 2,
"readOnly": true,
"type": "array"
},

"step" : 
{"anyOf": [
  
    "type": "integer"
  ],
  
    "type": "number"
],

"description": "Step value across the defined range",
"readOnly": true
},

"id" : 
{"description": "Instance ID of this specific resource",
"maxLength": 64,
"readOnly": true,
"type": "string"
},

"if" : 
{"description": "The interface set supported by this resource",
"items": [
  
   "enum": [
     "oic.if.baseline",
     "oic.if.ll",
     "oic.if.b",
     "oic.if.lb",
     "oic.if.rw",
     "oic.if.r",
     "oic.if.a",
...
### B.15.5 Property Definition

Table 267 The properties definitions of the resource

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>precision</td>
<td>number</td>
<td>No</td>
<td>Read Only</td>
<td>Accuracy granularity of the exposed value</td>
</tr>
<tr>
<td>range</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>The valid range for the value Property</td>
</tr>
<tr>
<td>n</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Friendly name of the resource</td>
</tr>
<tr>
<td>if</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>The interface set supported by this resource</td>
</tr>
<tr>
<td>value</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>Read Write</td>
<td>The value sensed or actuated by this Resource</td>
</tr>
<tr>
<td>rt</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>Resource Type</td>
</tr>
<tr>
<td>step</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>Step value across the defined range</td>
</tr>
<tr>
<td>id</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Instance ID of this specific resource</td>
</tr>
<tr>
<td>material</td>
<td>string</td>
<td>Yes</td>
<td>Read Only</td>
<td>Battery construction material (type).</td>
</tr>
</tbody>
</table>
Table 268 The CRUDN operations of the resource

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/BatteryMaterialResURI</td>
<td>get</td>
<td></td>
<td></td>
<td></td>
<td>observe</td>
</tr>
</tbody>
</table>

B.16 Binary Switch

B.16.1 Introduction

This resource describes a binary switch (on/off).

The value is a boolean. A value of 'true' means that the switch is on. A value of 'false' means that the switch is off.

B.16.2 Example URI

/BinarySwitchResURI

B.16.3 Resource Type

The resource type (rt) is defined as: ['oic.r.switch.binary'].

B.16.4 Swagger2.0 Definition

```json
{
   "swagger": "2.0",
   "info": {
      "title": "Binary Switch",
      "version": "v1.1.0-20160519",
      "license": {
         "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
         "x-description": "Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:
         1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
         2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.
         This software is provided by the Open Connectivity Foundation, Inc. "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR WARRANTIES OF NON-INFRINGEMENT, ARE DISCLAIMED. IN NO EVENT SHALL THE Open Connectivity Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE."
      }
   },
   "schemes": ["http"],
   "consumes": ["application/json"],
   "produces": ["application/json"],
   "paths": {
      "/BinarySwitchResURI": {
         "get": {
            "description": "This resource describes a binary switch (on/off). The value is a boolean. A value of 'true' means that the switch is on. A value of 'false' means that the switch is off.",
            "parameters": [
               {"$ref": "/parameters/interface"}
            ],
            "responses": {
               "200": {
                  "description": "",
                  "x-example": {
                     "rt": ["oic.r.switch.binary"],
                     "id": "unique_example_id",
                     "value": false
                  }
               }
            }
         }
      }
   }
}
```
"schema": { "$ref": "#/definitions/BinarySwitch" }
}
"post": {
"description": "",
"parameters": {
"$ref": "#/parameters/interface",
"name": "body",
"in": "body",
"required": true,
"schema": { "$ref": "#/definitions/BinarySwitch" },
"x-example": {
"id": "unique_example_id",
"value": true
}

"responses": {
"200": {
"description": "",
"x-example": {
"id": "unique_example_id",
"value": true
}
"schema": { "$ref": "#/definitions/BinarySwitch" }

"parameters": {
"interface": {
"in": "query",
"name": "if",
"type": "string",
"enum": ["oic.if.a", "oic.if.baseline"]
}

"definitions": {
"BinarySwitch": {
"properties": {
"rt": {
"description": "Resource Type",
"items": {
"maxLength": 64,
"type": "string"
},
"minItems": 1,
"readOnly": true,
"type": "array"
},
"precision": {
"description": "Accuracy granularity of the exposed value",
"readOnly": true,
"type": "number"
},
"value": {
"description": "Status of the switch",
"type": "boolean"
}
"n" : {
        "description": "Friendly name of the resource",
        "maxLength": 64,
        "readOnly": true,
        "type": "string"
    },

"range" : {
        "description": "The valid range for the value Property",
        "items": {
            "anyOf": [
                { "type": "number" },
                { "type": "integer" }
            ]
        },
        "maxItems": 2,
        "minItems": 2,
        "readOnly": true,
        "type": "array"
    },

"step" : {
            "anyOf": [
                { "type": "integer" },
                { "type": "number" }
            ],
            "description": "Step value across the defined range",
            "readOnly": true
        },

"id" : {
        "description": "Instance ID of this specific resource",
        "maxLength": 64,
        "readOnly": true,
        "type": "string"
    },

"if" : {
        "description": "The interface set supported by this resource",
        "items": {
            "enum": [
                "oic.if.baseline",
                "oic.if.l1",
                "oic.if.b",
                "oic.if.lb",
                "oic.if.rw",
                "oic.if.r",
                "oic.if.a",
                "oic.if.s"
            ],
            "type": "string"
        },
        "minItems": 1,
        "readOnly": true,
        "type": "array"  
    }
B.16.5 Property Definition

Table 269 The properties definitions of the resource

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>value</td>
<td>boolean</td>
<td>Yes</td>
<td>Read Write</td>
<td>Status of the switch</td>
</tr>
<tr>
<td>id</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Instance ID of this specific resource</td>
</tr>
<tr>
<td>rt</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>Resource Type</td>
</tr>
<tr>
<td>range</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>The valid range for the value Property</td>
</tr>
<tr>
<td>precision</td>
<td>number</td>
<td>No</td>
<td>Read Only</td>
<td>Accuracy granularity of the exposed value</td>
</tr>
<tr>
<td>if</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>The interface set supported by this resource</td>
</tr>
<tr>
<td>n</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Friendly name of the resource</td>
</tr>
<tr>
<td>step</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>Step value across the defined range</td>
</tr>
</tbody>
</table>

B.16.6 CRUDN behaviour

Table 270 The CRUDN operations of the resource

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/BinarySwitchResURI</td>
<td>get</td>
<td>post</td>
<td></td>
<td></td>
<td>observe</td>
</tr>
</tbody>
</table>

B.17 Blood Pressure

B.17.1 Introduction

This resource describes the properties associated with a person's Blood Pressure.

The unit is a single value that is one of mmHg or kPa.

If the unit Property is missing the default is a millimeter of mercury [mmHg].

The BloodPressure and unit Properties are read-only values that are provided by the server.

When range (from oic.r.baseresource) is omitted the default is 0 to +MAXFLOAT.
**B.17.2 Example URI**

/BloodPressureResURI

**B.17.3 Resource Type**

The resource type (rt) is defined as: ['oic.r.blood.pressure'].

**B.17.4 Swagger2.0 Definition**

```json
{
    "swagger": "2.0",
    "info": {
        "title": "Blood Pressure",
        "version": "v1.1.0-20160519",
        "license": {
            "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
            "x-description": "Redistribution and use in source and binary forms, with or without
            modification, are permitted provided that the following conditions are met:
            1. Redistributions of source code must retain the above copyright notice, this list of conditions and
            the following disclaimer.
            2. Redistributions in binary form must reproduce the above
            copyright notice, this list of conditions and the following disclaimer in the documentation and/or
            other materials provided with the distribution.
            THIS SOFTWARE IS PROVIDED BY THE Open Connectivity Foundation, INC. "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
            LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR
            WARRANTIES OF NON-INFRINGEMENT, ARE DISCLAIMED.
            IN NO EVENT SHALL THE Open Connectivity Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL,
            EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS
            OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
            HOWEVER CAUSED AND
            ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR
            OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY
            OF SUCH DAMAGE."
        }
    },
    "schemes": ["http"],
    "consumes": ["application/json"],
    "produces": ["application/json"],
    "paths": {
        "/BloodPressureResURI": {
            "get": {
                "description": "This resource describes the properties associated with a person's Blood
                Pressure.
                The unit is a single value that is one of mmHg or kPa. If the unit Property is missing
                the default is a millimeter of mercury [mmHg]. The BloodPressure and unit Properties are read-only
                values that are provided by the server.
                When range (from oic.r.baseresource) is omitted the default is 0 to +MAXFLOAT.
                Retrieves blood pressure of an object."
            },
            "parameters": [
                {"$ref": "#/parameters/interface"}
            ],
            "responses": {
                "200": {
                    "description": "",
                    "x-example": {
                        "rt": ["oic.r.blood.pressure"],
                        "id": "unique_example_id",
                        "systolic": 110,
                        "diastolic": 85,
                        "units": "mmHg"
                    }
                }
            },
            "parameters": {
                "interface": {
                    "in": "query",
                    "name": "if",
                    "type": "string",
                    "enum": ["oic.if.s", "oic.if.baseline"]
                }
            }
        }
    }
}
```

Copyright Open Connectivity Foundation, Inc. © 2016-18. All rights Reserved
"definitions": {
  "BloodPressure": {
    "properties": {
      "rt": {
        "description": "Resource Type",
        "items": {
          "maxLength": 64,
          "type": "string"
        },
        "minItems": 1,
        "readOnly": true,
        "type": "array"
      },
      "map": {
        "description": "Mean Arterial Pressure (MAP)",
        "minimum": 0,
        "readOnly": true,
        "type": "number"
      },
      "precision": {
        "description": "Accuracy granularity of the exposed value",
        "readOnly": true,
        "type": "number"
      },
      "value": {
        "anyOf": [
          {
            "type": "array"
          },
          {
            "type": "string"
          },
          {
            "type": "boolean"
          },
          {
            "type": "integer"
          },
          {
            "type": "number"
          },
          {
            "type": "object"
          }
        ],
        "description": "The value sensed or actuated by this Resource"
      },
      "n": {
        "description": "Friendly name of the resource",
        "maxLength": 64,
        "readOnly": true,
        "type": "string"
      },
      "units": {
        "description": "Blood pressure unit",
        "enum": [
          "mmHg",
          "kPa"
        ]
      }
    }
  }
}
"range": {
    "description": "The valid range for the value Property",
    "items": {
        "anyOf": [
            "type": "number"
        ],
        "type": "integer"
    }
},
"maxItems": 2,
"minItems": 2,
"readOnly": true,
"type": "array"},
"systolic": {
    "description": "Systolic blood pressure",
    "minimum": 0,
    "readOnly": true,
    "type": "number"},
"step": {
    "anyOf": [
        "type": "integer",
        "type": "number"
    ],
    "description": "Step value across the defined range",
    "readOnly": true},
"diastolic": {
    "description": "Diastolic blood pressure",
    "minimum": 0,
    "readOnly": true,
    "type": "number"},
"id": {
    "description": "Instance ID of this specific resource",
    "maxLength": 64,
    "readOnly": true,
    "type": "string"},
"if": {
    "description": "The interface set supported by this resource",
    "items": {
        "enum": [
            "oic.if.baseline",
            "oic.if.ll",
            "oic.if.b",
            "oic.if.lb"
        ]}
B.17.5 Property Definition

Table 271 The properties definitions of the resource

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>units</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Blood pressure unit</td>
</tr>
<tr>
<td>value</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>Read Write</td>
<td>The value sensed or actuated by this Resource</td>
</tr>
<tr>
<td>diastolic</td>
<td>number</td>
<td>Yes</td>
<td>Read Only</td>
<td>Diastolic blood pressure</td>
</tr>
<tr>
<td>rt</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>Resource Type</td>
</tr>
<tr>
<td>precision</td>
<td>number</td>
<td>No</td>
<td>Read Only</td>
<td>Accuracy granularity of the exposed value</td>
</tr>
<tr>
<td>map</td>
<td>number</td>
<td>No</td>
<td>Read Only</td>
<td>Mean Arterial Pressure (MAP)</td>
</tr>
<tr>
<td>systolic</td>
<td>number</td>
<td>Yes</td>
<td>Read Only</td>
<td>Systolic blood pressure</td>
</tr>
<tr>
<td>if</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>The interface set supported by this resource</td>
</tr>
<tr>
<td>n</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Friendly name of the resource</td>
</tr>
<tr>
<td>step</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>Step value across the defined range</td>
</tr>
<tr>
<td>id</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td></td>
</tr>
</tbody>
</table>
### B.18 Blood Pressure Monitor Atomic Measurement

#### B.18.1 Introduction

This resource describes the properties associated with Blood Pressure Monitor. The resource is an atomic measurement of blood pressure (oic.r.blood.pressure), pulse rate (oic.r.pulserate), observed time (oic.r.time.stamp), and user ID (oic.r.userid).

Retrieves the current blood pressure.

#### B.18.2 Example URI

/BloodPressureMonitorAMResURI

#### B.18.3 Resource Type

The resource type (rt) is defined as: ['oic.r.bloodpressuremonitor-am'].

#### B.18.4 Swagger2.0 Definition

```json
{
  "swagger": "2.0",
  "info": {
    "title": "Blood Pressure Monitor Atomic Measurement Batch Representation",
    "version": "v1.1.0-20160519",
    "license": {
      "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved."
    },
    "description": "Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:
        1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
        2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.

        THIS SOFTWARE IS PROVIDED BY THE Open Connectivity Foundation, INC. "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR WARRANTIES OF NON-INFRINGEMENT, ARE DISCLAIMED. IN NO EVENT SHALL THE Open Connectivity Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE."
  },
  "schemes": ["http"],
  "consumes": ["application/json"],
  "produces": ["application/json"],
  "paths": {
    "/BloodPressureMonitorAMResURI?if=oic.if.b": {
      "get": {
        "description": "This resource describes the properties associated with Blood Pressure Monitor. The resource is an atomic measurement of blood pressure (oic.r.blood.pressure), pulse rate (oic.r.pulserate), observed time (oic.r.time.stamp), and user ID (oic.r.userid). Retrieves current blood pressure."}
  }
}
```
the current blood pressure.

"parameters": [
  
  
  "href": "/myBloodPressureResURI",
  "rep": 
  
  
  "systolic": 120,
  "diastolic": 80,
  "units": "mmHg"
]

"href": "/myPulseRateResURI",
"rep": 

  "pulserate": 70
}

"schema": { "$ref": "#/definitions/batch-retrieve" }

"/BloodPressureMonitorAMResURI?if=oic.if.ll" : {
  
  "description": "This resource describes the properties associated with Blood Pressure Monitor. The resource is an atomic measurement of blood pressure (oic.r.blood.pressure), pulse rate (oic.r.pulserate), observed time (oic.r.time.stamp), and user ID (oic.r.userid). Retrieves the current blood pressure."

  "parameters": [
    
    "href": "/myBloodPressureResURI",
    "rt": ["oic.r.blood.pressure"],
    "if": ["oic.if.s", "oic.if.baseline"]
  ],

  "href": "/myPulseRateResURI",
  "rt": ["oic.r.pulserate"],
  "if": ["oic.if.s", "oic.if.baseline"]
}

"schema": { "$ref": "#/definitions/links" }

"/BloodPressureMonitorAMResURI?if=oic.if.baseline" : {
  
  "description": "This resource describes the properties associated with Blood Pressure Monitor. The resource is an atomic measurement of blood pressure (oic.r.blood.pressure), pulse rate (oic.r.pulserate), observed time (oic.r.time.stamp), and user ID (oic.r.userid). Retrieves the current blood pressure."

  "parameters": [
    
    "href": "/myBloodPressureResURI",
    "rt": ["oic.r.blood.pressure"],
    "if": ["oic.if.s", "oic.if.baseline"]
  ],

  "href": "/myPulseRateRes URI",
  "rt": ["oic.r.pulserate"],
  "if": ["oic.if.s", "oic.if.baseline"]
}

"schema": { "$ref": "#/definitions/links" }

"/BloodPressureMonitorAMResURI?if=oic.if.ll" : {
  
  "description": "This resource describes the properties associated with Blood Pressure Monitor. The resource is an atomic measurement of blood pressure (oic.r.blood.pressure), pulse rate (oic.r.pulserate), observed time (oic.r.time.stamp), and user ID (oic.r.userid). Retrieves the current blood pressure."

  "parameters": [
    
    "href": "/myBloodPressureResURI",
    "rt": ["oic.r.blood.pressure"],
    "if": ["oic.if.s", "oic.if.baseline"]
  ],

  "href": "/myPulseRateResURI",
  "rt": ["oic.r.pulserate"],
  "if": ["oic.if.s", "oic.if.baseline"]
}

"schema": { "$ref": "#/definitions/batch-retrieve" }

"/BloodPressureMonitorAMResURI?if=oic.if.baseline" : {
  
  "description": "This resource describes the properties associated with Blood Pressure Monitor. The resource is an atomic measurement of blood pressure (oic.r.blood.pressure), pulse rate (oic.r.pulserate), observed time (oic.r.time.stamp), and user ID (oic.r.userid). Retrieves the current blood pressure."

  "parameters": [
    
    "href": "/myBloodPressureResURI",
    "rt": ["oic.r.blood.pressure"],
    "if": ["oic.if.s", "oic.if.baseline"]
  ],

  "href": "/myPulseRateResURI",
  "rt": ["oic.r.pulserate"],
  "if": ["oic.if.s", "oic.if.baseline"]
}

"schema": { "$ref": "#/definitions/links" }

"/BloodPressureMonitorAMResURI?if=oic.if.ll" : {
  
  "description": "This resource describes the properties associated with Blood Pressure Monitor. The resource is an atomic measurement of blood pressure (oic.r.blood.pressure), pulse rate (oic.r.pulserate), observed time (oic.r.time.stamp), and user ID (oic.r.userid). Retrieves the current blood pressure."

  "parameters": [
    
    "href": "/myBloodPressureResURI",
    "rt": ["oic.r.blood.pressure"],
    "if": ["oic.if.s", "oic.if.baseline"]
  ],

  "href": "/myPulseRateResURI",
  "rt": ["oic.r.pulserate"],
  "if": ["oic.if.s", "oic.if.baseline"]
}

"schema": { "$ref": "#/definitions/batch-retrieve" }

"/BloodPressureMonitorAMResURI?if=oic.if.baseline" : {
  
  "description": "This resource describes the properties associated with Blood Pressure Monitor. The resource is an atomic measurement of blood pressure (oic.r.blood.pressure), pulse rate (oic.r.pulserate), observed time (oic.r.time.stamp), and user ID (oic.r.userid). Retrieves the current blood pressure."

  "parameters": [
    
    "href": "/myBloodPressureResURI",
    "rt": ["oic.r.blood.pressure"],
    "if": ["oic.if.s", "oic.if.baseline"]
  ],

  "href": "/myPulseRateResURI",
  "rt": ["oic.r.pulserate"],
  "if": ["oic.if.s", "oic.if.baseline"]
}

"schema": { "$ref": "#/definitions/links" }

"/BloodPressureMonitorAMResURI?if=oic.if.ll" : {
  
  "description": "This resource describes the properties associated with Blood Pressure Monitor. The resource is an atomic measurement of blood pressure (oic.r.blood.pressure), pulse rate (oic.r.pulserate), observed time (oic.r.time.stamp), and user ID (oic.r.userid). Retrieves the current blood pressure."

  "parameters": [
    
    "href": "/myBloodPressureResURI",
    "rt": ["oic.r.blood.pressure"],
    "if": ["oic.if.s", "oic.if.baseline"]
  ],

  "href": "/myPulseRateResURI",
  "rt": ["oic.r.pulserate"],
  "if": ["oic.if.s", "oic.if.baseline"]
}

"schema": { "$ref": "#/definitions/batch-retrieve" }

"/BloodPressureMonitorAMResURI?if=oic.if.baseline" : {
  
  "description": "This resource describes the properties associated with Blood Pressure Monitor. The resource is an atomic measurement of blood pressure (oic.r.blood.pressure), pulse rate (oic.r.pulserate), observed time (oic.r.time.stamp), and user ID (oic.r.userid). Retrieves the current blood pressure."

  "parameters": [
    
    "href": "/myBloodPressureResURI",
    "rt": ["oic.r.blood.pressure"],
    "if": ["oic.if.s", "oic.if.baseline"]
  ],

  "href": "/myPulseRateResURI",
  "rt": ["oic.r.pulserate"],
  "if": ["oic.if.s", "oic.if.baseline"]
}

"schema": { "$ref": "#/definitions/links" }

"/BloodPressureMonitorAMResURI?if=oic.if.ll" : {
  
  "description": "This resource describes the properties associated with Blood Pressure Monitor. The resource is an atomic measurement of blood pressure (oic.r.blood.pressure), pulse rate (oic.r.pulserate), observed time (oic.r.time.stamp), and user ID (oic.r.userid). Retrieves the current blood pressure."

  "parameters": [
    
    "href": "/myBloodPressureResURI",
    "rt": ["oic.r.blood.pressure"],
    "if": ["oic.if.s", "oic.if.baseline"]
  ],

  "href": "/myPulseRateResURI",
  "rt": ["oic.r.pulserate"],
  "if": ["oic.if.s", "oic.if.baseline"]
}

"schema": { "$ref": "#/definitions/batch-retrieve" }
"responses": {
  "200": {
    "description": "",
    "x-example": {
      "rt": ["oic.r.blood.pressuremonitor-am", "oic.wk.atomicmeasurement"],
      "if": ["oic.if.b", "oic.if.ll", "oic.if.baseline"],
      "rts-m": ["oic.r.blood.pressure"],
      "rts": ["oic.r.blood.pressure", "oic.r.pulserate"],
      "links": []
    }
  },
  "schema": { "$ref": "#/definitions/baseline" }
},
"parameters": {
  "interface-ll": {
    "in": "query",
    "name": "if",
    "type": "string",
    "enum": ["oic.if.ll"]
  },
  "interface-b": {
    "in": "query",
    "name": "if",
    "type": "string",
    "enum": ["oic.if.b"]
  },
  "interface-baseline": {
    "in": "query",
    "name": "if",
    "type": "string",
    "enum": ["oic.if.baseline"]
  },
  "interface-all": {
    "in": "query",
    "name": "if",
    "type": "string",
    "enum": ["oic.if.b", "oic.if.ll", "oic.if.baseline"]
  }
},
"definitions": {
  "batch-retrieve": {
    "title": "Collection Batch Retrieve Format",
    "minItems": 1,
    "items": {
      "additionalProperties": true,
      "properties": {
        "href": {
          "description": "URI of the target resource relative assuming the collection URI as anchor"}}}}
"type": "string",
"rep": {
"oneOf": [
{
"description": "The response payload from a single resource",
"type": "object"
},
{
"description": "The response payload from a collection (batch) resource",
"type": "array"
}
]
}

"required": [
"href",
"rep"
]

"type": "array",

"links": {
"type": "array"

,"items": {
"$ref": "/definitions/oic.oic-link"
}

"baseline": {
"properties": {
"rt": {
"items": {
"enum": [
"oic.r.bloodpressuremonitor-am",
"oic.wk.atomicmeasurement"
]
},
"maxItems": 2,
"minItems": 2,
"type": "array",
"uniqueItems": true
}

,"links": {
"description": "A set of simple or individual OIC Links."
,"items": {
"anchor": {
"description": "This is used to override the context URI e.g. override the URI of the containing collection."
,"format": "uri",
"maxLength": 256,
"type": "string"
}

,"di": {
"description": "The Device ID formatted according to IETF RFC 4122."
,"pattern": "^[a-fA-F0-9]{8}-%[a-fA-F0-9]{4}-%[a-fA-F0-9]{4}-%[a-fA-F0-9]{4}-%[a-fA-F0-9]{12}$",
"type": "string"
"eps": {
  "description": "the Endpoint information of the target Resource",
  "items": {
    "properties": {
      "ep": {
        "description": "Transport Protocol Suite + Endpoint Locator",
        "format": "uri",
        "type": "string"
      },
      "pri": {
        "description": "The priority among multiple Endpoints",
        "minimum": 1,
        "type": "integer"
      }"type": "object"
    },
    "type": "array"
  },
  "href": {
    "description": "This is the target URI, it can be specified as a Relative Reference or fully-qualified URI."
  },
  "if": {
    "description": "The interface set supported by this resource",
    "items": {
      "enum": [
        "oic.if.baseline",
        "oic.if.ll",
        "oic.if.b",
        "oic.if.rw",
        "oic.if.r",
        "oic.if.a",
        "oic.if.s"
      ],
      "type": "string"
    },
    "minItems": 1,
    "type": "array"
  },
  "ins": {
    "description": "The instance identifier for this web link in an array of web links used in collections",
    "type": "integer"
  },
  "p": {
    "description": "Specifies the framework policies on the Resource referenced by the target URI",
    "properties": {
      "bm": {
        "description": "Specifies the framework policies on the Resource referenced by the target URI for e.g. observable and discoverable",
        "type": "integer"
      }"type": "object"
    },
    "required": ["bm"],
    "type": "object"
  },
  "rel": {
    "description": "The relation of the target URI referenced by the link to the context URI",
    "oneOf": ["default": ["hosts"
"items": {
  "maxLength": 64,
  "type": "string"
},
  "minItems": 1,
  "type": "array"
],
  "default": "hosts",
  "maxLength": 64,
  "type": "string"
}
]
"rt": {
  "description": "Resource Type of the Resource",
  "items": {
    "maxLength": 64,
    "type": "string"
  },
  "minItems": 1,
  "type": "array"
},
  "title": {
    "description": "A title for the link relation. Can be used by the UI to provide a
context.",
    "maxLength": 64,
    "type": "string"
  },
  "type": {"default": "application/cbor",
    "description": "A hint at the representation of the resource referenced by the
target URI. This represents the media types that are used for both accepting and emitting.",
    "items": {
      "maxLength": 64,
      "type": "string"
    },
    "minItems": 1,
    "type": "array"
  },
  "required": [
    "href",
    "rt",
    "if"
  ],
  "type": "object"
],
  "type": "array"
},
"n": {
  "description": "Friendly name of the resource",
  "maxLength": 64,
  "readOnly": true,
  "type": "string"
},
"rts": {
  "description": "This contains all possible resource types for this atomic measurement.",
  "items": {
    "enum": [
      "oic.r.blood.pressure",
      "oic.r.pulserate",
      "oic.r.userid",
      "oic.r.timestamp"
    ]
  }
};
"minItems": 1,
"type": "array",
"uniqueItems": true
},
"id": {
"description": "Instance ID of this specific resource",
"maxLength": 64,
"readOnly": true,
"type": "string"
},
"rts-m": {
"description": "This contains all mandatory resource types for this atomic measurement.",
"items": {
    "enum": [
        "oic.r.blood.pressure"
    ],
    "maxItems": 1,
    "minItems": 1,
    "type": "array",
    "uniqueItems": true
},
"if": {
"description": "The interface set supported by this resource",
"items": {
    "enum": [
        "oic.if.baseline",
        "oic.if.ll",
        "oic.if.lb",
        "oic.if.rw",
        "oic.if.r",
        "oic.if.a",
        "oic.if.s"
    ],
    "type": "string"
},
    "minItems": 1,
    "readOnly": true,
    "type": "array"
}
},
"oic.oic-link": {
    "properties": {
        "anchor": {
            "description": "This is used to override the context URI e.g. override the URI of the containing collection.",
            "format": "uri",
            "maxLength": 256,
            "type": "string"
        },
        "di": {
            "description": "The Device ID formatted according to IETF RFC 4122.",
            "pattern": "^[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{12}$",
            "type": "string"
        },
        "eps": {
            "description": "the Endpoint information of the target Resource",
            "items": [
            ]
        }
    }
}
"properties": {
  "ep": {
    "description": "Transport Protocol Suite + Endpoint Locator",
    "format": "uri",
    "type": "string"
  },
  "pri": {
    "description": "The priority among multiple Endpoints",
    "minimum": 1,
    "type": "integer"
  }
},
"href": {
  "description": "This is the target URI, it can be specified as a Relative Reference or fully-qualified URI.",
  "format": "uri",
  "maxLength": 256,
  "type": "string"
},
"if": {
  "description": "The interface set supported by this resource",
  "items": {
    "enum": [
      "oic.if.baseline",
      "oic.if.ll",
      "oic.if.b",
      "oic.if.rw",
      "oic.if.r",
      "oic.if.a",
      "oic.if.s"
    ],
    "type": "string"
  },
  "minItems": 1,
  "type": "array"
},
"ins": {
  "description": "The instance identifier for this web link in an array of web links - used in collections",
  "type": "integer"
},
"p": {
  "description": "Specifies the framework policies on the Resource referenced by the target URI",
  "properties": {
    "bm": {
      "description": "Specifies the framework policies on the Resource referenced by the target URI for e.g. observable and discoverable",
      "type": "integer"
    }
  },
  "required": ["bm"],
  "type": "object"
},
"rel": {
  "description": "The relation of the target URI referenced by the link to the context URI",
  "oneOf": [
    {
      "default": ["hosts"],
      "items": {
        "maxLength": 64,
        "type": "string"
      }
    }
  ]
}
B.18.5 Property Definition

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>rep</td>
<td>multiple types: see schema</td>
<td>Yes</td>
<td>Read Write</td>
<td></td>
</tr>
<tr>
<td>href</td>
<td>string</td>
<td>Yes</td>
<td>Read Write</td>
<td>URI of the target resource relative assuming the collection URI as anchor</td>
</tr>
<tr>
<td>title</td>
<td>string</td>
<td>No</td>
<td>Read Write</td>
<td>A title for the link relation. Can be used by the UI to provide a context.</td>
</tr>
</tbody>
</table>

Table 273 The properties definitions of the resource
<p>| | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>type</strong></td>
<td>array: see schema</td>
<td>No</td>
<td>Read Write</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>A hint at the representation of the resource referenced by the target URI. This represents the media types that are used for both accepting and emitting.</td>
</tr>
<tr>
<td><strong>p</strong></td>
<td>object: see schema</td>
<td>No</td>
<td>Read Write</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Specifies the framework policies on the Resource referenced by the target URI.</td>
</tr>
<tr>
<td><strong>anchor</strong></td>
<td>string</td>
<td>No</td>
<td>Read Write</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>This is used to override the context URI e.g. override the URI of the containing collection.</td>
</tr>
<tr>
<td><strong>di</strong></td>
<td>string</td>
<td>No</td>
<td>Read Write</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>The Device ID formatted according to IETF RFC 4122.</td>
</tr>
<tr>
<td><strong>href</strong></td>
<td>string</td>
<td>Yes</td>
<td>Read Write</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>This is the target URI, it can be specified as a Relative Reference or fully-qualified URI.</td>
</tr>
<tr>
<td><strong>if</strong></td>
<td>array: see schema</td>
<td>Yes</td>
<td>Read Write</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>The interface set supported by this resource.</td>
</tr>
<tr>
<td><strong>rel</strong></td>
<td>multiple types: see schema</td>
<td>No</td>
<td>Read Write</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>The relation of the target URI referenced by the link to the context URI.</td>
</tr>
<tr>
<td><strong>rt</strong></td>
<td>array: see schema</td>
<td>Yes</td>
<td>Read Write</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Resource Type of the Resource.</td>
</tr>
<tr>
<td><strong>eps</strong></td>
<td>array: see schema</td>
<td>No</td>
<td>Read Write</td>
</tr>
</tbody>
</table>
### B.18.6 CRUDN behaviour

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/BloodPressureMonitorAMResURI</td>
<td>get</td>
<td></td>
<td></td>
<td></td>
<td>observe</td>
</tr>
</tbody>
</table>

### B.19 BMI

#### B.19.1 Introduction

This resource describes the properties associated with a person's Body Mass Index (BMI).

The unit, which is the default unit, is kg/m^2.

The bmi and unit Properties are read-only values that are provided by the server.

When range (from oic.r.baseresource) is omitted the default is 0 to +MAXFLOAT.
B.19.2 Example URI

/BMIResURI

B.19.3 Resource Type

The resource type (rt) is defined as: ['oic.r.bmi'].

B.19.4 Swagger2.0 Definition

```json
{
  "swagger": "2.0",
  "info": {
    "title": "BMI",
    "version": "v1.1.0-20160519",
    "license": {
      "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
      "x-description": "Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.

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    }
  },
  "schemes": ["http"],
  "consumes": ["application/json"],
  "produces": ["application/json"],
  "paths": {
    "/BMIResURI" : {
      "get": {
        "description": "This resource describes the properties associated with a person's Body Mass Index (BMI). The unit, which is the default unit, is kg/m^2. The bmi and unit Properties are read-only values that are provided by the server. When range (from oic.r.baseresource) is omitted the default is 0 to +MAXFLOAT. Retrieves BMI of an object."
      }
    }
  },
  "parameters": {
    ["$ref": "/#/parameters/interface"]
  },
  "responses": {
    "200": {
      "description": ",",
      "x-example": {
        "rt": ["oic.r.bmi"],
        "id": "unique_example_id",
        "bmi": 20
      }
    },
    "schema": { "$ref": "/#definitions/BMI" }
  }
}
```

Copyright Open Connectivity Foundation, Inc. © 2016-18. All rights Reserved
"BMI": {
  "properties": {
    "rt": {
      "description": "Resource Type",
      "items": [
        {"maxLength": 64,
         "type": "string"},
        {"minItems": 1,
         "readOnly": true,
         "type": "array"}
      ],
      "bmi": {
        "description": "Body Mass Index (BMI) in kg/m^2",
        "minimum": 0,
        "readOnly": true,
        "type": "number"
      },
      "precision": {
        "description": "Accuracy granularity of the exposed value",
        "readOnly": true,
        "type": "number"
      },
      "value": {
        "anyOf": [
          {"type": "array"},
          {"type": "string"},
          {"type": "boolean"},
          {"type": "integer"},
          {"type": "number"},
          {"type": "object"},
          {"description": "The value sensed or actuated by this Resource"}
        ],
      },
      "n": {
        "description": "Friendly name of the resource",
        "maxLength": 64,
        "readOnly": true,
        "type": "string"},
      "range": {
        "description": "The valid range for the value Property",
        "items": [
          {"anyOf": [
            {"type": "number"}
          ]},
        ]
      }
    }
  }
}
B.19.5 Property Definition

Table 275 The properties definitions of the resource

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>n</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Friendly name of the resource</td>
</tr>
<tr>
<td>precision</td>
<td>number</td>
<td>No</td>
<td>Read Only</td>
<td></td>
</tr>
<tr>
<td>Property</td>
<td>Type</td>
<td>Access</td>
<td>Read</td>
<td>Update</td>
</tr>
<tr>
<td>----------</td>
<td>----------</td>
<td>---------</td>
<td>-------</td>
<td>--------</td>
</tr>
<tr>
<td>range</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td></td>
</tr>
<tr>
<td>bmi</td>
<td>number</td>
<td>Yes</td>
<td>Read Only</td>
<td></td>
</tr>
<tr>
<td>id</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td></td>
</tr>
<tr>
<td>step</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>Read Only</td>
<td></td>
</tr>
<tr>
<td>value</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>Read Write</td>
<td></td>
</tr>
<tr>
<td>rt</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td></td>
</tr>
<tr>
<td>if</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td></td>
</tr>
</tbody>
</table>

**B.19.6 CRUDN behaviour**

Table 276 The CRUDN operations of the resource

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/BMIResURI</td>
<td>get</td>
<td></td>
<td></td>
<td></td>
<td>observe</td>
</tr>
</tbody>
</table>

**B.20 Body Fat**

**B.20.1 Introduction**

This resource describes the properties associated with a person's Body Fat.

The unit is a single value that is one of kg, lb or %.

If the unit Property is missing the default is kilograms [kg].

The bodyfat and unit Properties are read-only values that are provided by the server.

When range (from oic.r.baseresource) is omitted the default is 0 to +MAXFLOAT.

**B.20.2 Example URI**

/BMIResURI

**B.20.3 Resource Type**

The resource type (rt) is defined as: ['oic.r.body.fat'].

**B.20.4 Swagger2.0 Definition**

```json
{
  "swagger": "2.0",
  "info": {
    "title": "Body Fat",
```

Copyright Open Connectivity Foundation, Inc. © 2016-18. All rights Reserved
"version": "v1.1.0-20160519",
"license": {
  "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
  "x-description": "Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:
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},
"schemes": ["http"],
"consumes": ["application/json"],
"produces": ["application/json"],
"paths": {
  "/BodyFatResURI": {
    "get": {
      "description": "This resource describes the properties associated with a person’s Body fat. The unit is a single value that is one of kg, lb or %. If the unit Property is missing the default is kilograms [kg]. The bodyfat and unit Properties are read-only values that are provided by the server. When range (from oic.r.baseresource) is omitted the default is 0 to +MAXFLOAT. Retrieves Body fat of an object."
    },
    "parameters": [{"$ref": "/#parameters/interface"}],
    "responses": {
      "200": {
        "description": "",
        "x-example": {
          "rt": ["oic.r.body.fat"],
          "id": "unique_example_id",
          "bodyfat": 20,
          "units": "kg"
        }
      }
    }
  }
},
"parameters": {
  "interface": {
    "in": "query",
    "name": "if",
    "type": "string",
    "enum": ["oic.if.s", "oic.if.baseline"]
  }
},
"definitions": {
  "BodyFat": {
    "properties": {
      "rt": {
        "description": "Resource Type",
        "items": {
          "maxLength": 64,
          "type": "string"
        },
        "minItems": 1,
        "readOnly": true
      }
    }
  }
}
{"type": "array"},
"precision": {
    "description": "Accuracy granularity of the exposed value",
    "readOnly": true,
    "type": "number"
},
"bodyfat": {
    "description": "Body fat.",
    "minimum": 0,
    "readOnly": true,
    "type": "number"
},
"n": {
    "description": "Friendly name of the resource",
    "maxLength": 64,
    "readOnly": true,
    "type": "string"
},
"units": {
    "description": "Body fat units",
    "enum": ["kg", "lb", "%"],
    "readOnly": true,
    "type": "string"
},
"range": {
    "description": "The valid range for the value Property",
    "items": {
        "anyOf": [
            { "type": "number" },
            { "type": "integer" }
        ],
        "maxItems": 2,
        "minItems": 2,
        "readOnly": true,
        "type": "array"
    },
    "value": {
        "anyOf": [
            { "type": "array" },
            { "type": "string" },
            { "type": "boolean" },
            { "type": "integer" }
        ]
    }
}
}
"type": "object",

B.20.5 Property Definition

Table 277 The properties definitions of the resource

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>n</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Friendly name of the resource</td>
</tr>
<tr>
<td>Property</td>
<td>Type</td>
<td>Access</td>
<td>Description</td>
<td></td>
</tr>
<tr>
<td>----------</td>
<td>------------</td>
<td>--------</td>
<td>-----------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>units</td>
<td>string</td>
<td>No</td>
<td>Body fat units</td>
<td></td>
</tr>
<tr>
<td>precision</td>
<td>number</td>
<td>No</td>
<td>Accuracy granularity of the exposed value</td>
<td></td>
</tr>
<tr>
<td>rt</td>
<td>array: see schema</td>
<td>No</td>
<td>Resource Type</td>
<td></td>
</tr>
<tr>
<td>if</td>
<td>array: see schema</td>
<td>No</td>
<td>The interface set supported by this resource</td>
<td></td>
</tr>
<tr>
<td>step</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>Step value across the defined range</td>
<td></td>
</tr>
<tr>
<td>value</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>The value sensed or actuated by this Resource</td>
<td></td>
</tr>
<tr>
<td>id</td>
<td>string</td>
<td>No</td>
<td>Instance ID of this specific resource</td>
<td></td>
</tr>
<tr>
<td>bodyfat</td>
<td>number</td>
<td>Yes</td>
<td>Body fat.</td>
<td></td>
</tr>
<tr>
<td>range</td>
<td>array: see schema</td>
<td>No</td>
<td>The valid range for the value Property</td>
<td></td>
</tr>
</tbody>
</table>

### B.20.6 CRUDN behaviour

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/BodyFatResURI</td>
<td>get</td>
<td></td>
<td></td>
<td></td>
<td>observe</td>
</tr>
</tbody>
</table>

### B.21 Body Fat Free Mass

#### B.21.1 Introduction

This resource describes the properties associated with a person's Body fat free mass. The unit is a single value that is one of kg, lb or %. If the unit Property is missing the default is kilograms [kg]. The ffm and unit Properties are read-only values that are provided by the server. When range (from oic.r.baseresource) is omitted the default is 0 to +MAXFLOAT.

#### B.21.2 Example URI

/BetterFatFreeMassResURI

#### B.21.3 Resource Type

The resource type (rt) is defined as: ['oic.r.body.ffm'].

---

Usage rights: All rights Reserved
B.21.4 Swagger2.0 Definition

```json
{
    "swagger": "2.0",
    "info": {
        "title": "Body Fat Free Mass",
        "version": "v1.1.0-20160519",
        "license": {
            "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved."
        }
    },
    "x-description": "Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

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2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.

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},
"schemes": ["http"],
"consumes": ["application/json"],
"produces": ["application/json"],
"paths": {
    "/BodyFatFreeMassResURI": {
        "get": {
            "description": "This resource describes the properties associated with a person's Body fat free mass.
            The unit is a single value that is one of kg, lb or %.
            If the unit Property is missing the default is kilograms [kg].
            The ffm and unit Properties are read-only values that are provided by the server.
            When range (from oic.r.baseresource) is omitted the default is 0 to +MAXFLOAT.
            Retrieves Body fat free mass of an object."
        },
        "parameters": [
            {"$ref": "/#/parameters/interface"}
        ],
        "responses": {
            "200": {
                "description": "",
                "x-example": {
                    "rt": ["oic.r.body.ffm"],
                    "id": "unique_example_id",
                    "ffm": 40,
                    "units": "kg"
                }
            }
        }
    }
}
```

items": {  
  "maxLength": 64,  
  "type": "string"  
},  
"minItems": 1,  
"readOnly": true,  
"type": "array"  
},  
"ffm": {  
  "description": "Body fat free mass.",  
  "minimum": 0,  
  "readOnly": true,  
  "type": "number"  
},  
"value": {  
  "anyOf": [  
    {  
      "type": "array"  
    },  
    {  
      "type": "string"  
    },  
    {  
      "type": "boolean"  
    },  
    {  
      "type": "integer"  
    },  
    {  
      "type": "number"  
    },  
    {  
      "type": "object"  
    }  
  ],  
  "description": "The value sensed or actuated by this Resource"  
},  
"n": {  
  "description": "Friendly name of the resource",  
  "maxLength": 64,  
  "readOnly": true,  
  "type": "string"  
},  
"units": {  
  "description": "Body fat free mass units",  
  "enum": [  
    "kg",  
    "lb",  
    "%"  
  ],  
  "readOnly": true,  
  "type": "string"  
},  
"range": {  
  "description": "The valid range for the value Property",  
  "items": [  
    {  
      "anyOf": [  
        {  
          "type": "number"  
        }  
      ],  
      "type": "number"  
    },  
    
  ]  
}
"type": "integer"
],
"maxItems": 2,
"minItems": 2,
"readOnly": true,
"type": "array"
},
"precision": {
"description": "Accuracy granularity of the exposed value",
"readOnly": true,
"type": "number"
},
"step": {
"anyOf": [
{
"type": "integer"
},
{
"type": "number"
}
],
"description": "Step value across the defined range",
"readOnly": true
},
"id": {
"description": "Instance ID of this specific resource",
"maxLength": 64,
"readOnly": true,
"type": "string"
},
#if: {
"description": "The interface set supported by this resource",
"items": {
"enum": [
"oic.if.baseline",
"oic.if.ll",
"oic.if.b",
"oic.if.lb",
"oic.if.rw",
"oic.if.r",
"oic.if.a",
"oic.if.s"
],
"type": "string"
},
"minItems": 1,
"readOnly": true,
"type": "array"
}
B.21.5 Property Definition

Table 279 The properties definitions of the resource

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>rt</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>Resource Type</td>
</tr>
<tr>
<td>if</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>The interface set supported by this resource</td>
</tr>
<tr>
<td>ffm</td>
<td>number</td>
<td>Yes</td>
<td>Read Only</td>
<td>Body fat free mass.</td>
</tr>
<tr>
<td>value</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>Read Write</td>
<td>The value sensed or actuated by this Resource</td>
</tr>
<tr>
<td>step</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>Step value across the defined range</td>
</tr>
<tr>
<td>id</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Instance ID of this specific resource</td>
</tr>
<tr>
<td>range</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>The valid range for the value Property</td>
</tr>
<tr>
<td>precision</td>
<td>number</td>
<td>No</td>
<td>Read Only</td>
<td>Accuracy granularity of the exposed value</td>
</tr>
<tr>
<td>units</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Body fat free mass units</td>
</tr>
<tr>
<td>n</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Friendly name of the resource</td>
</tr>
</tbody>
</table>

B.21.6 CRUDN behaviour

Table 280 The CRUDN operations of the resource

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/BodyFatFreeMassResURI</td>
<td>get</td>
<td></td>
<td></td>
<td></td>
<td>observe</td>
</tr>
</tbody>
</table>

B.22 Body Location

B.22.1 Introduction

This resource describes the properties associated with Body location of a person.

The bloc Property is a read-only value that is provided by the server.
B.22.2 Example URI

/BodyLocationResURI

B.22.3 Resource Type

The resource type (rt) is defined as: ['oic.r.body.location'].

B.22.4 Swagger2.0 Definition

```json
{
    "swagger": "2.0",
    "info": {
        "title": "Body Location",
        "version": "v1.1.0-20160519",
        "license": {
            "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
            "x-description": "Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

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"
        }
    },
    "schemes": ["http"],
    "consumes": ["application/json"],
    "produces": ["application/json"],
    "paths": {
        "/BodyLocationResURI": {
            "get": {
                "tags": ["Body Location"],
                "description": "This resource describes the properties associated with Body location of a person.

The bloc Property is a read-only value that is provided by the server.

Retrieves Body location of a person.
",
                "parameters": [
                    {
                        "$ref": "#/parameters/interface"
                    }
                ],
                "responses": {
                    "200": {
                        "description": "",
                        "x-example": {
                            "rt": ["oic.r.body.location"],
                            "id": "unique_example_id",
                            "bloc": "axillary"
                        }
                    }
                }
            }
        }
    },
    "parameters": {
        "interface": {
            "in": "query",
            "name": "if",
            "type": "string",
            "enum": ["oic.if.s", "oic.if.baseline"]
        }
    },
    "definitions": {
        "BodyLocation": {
```
"properties": {
  "rt": {
    "description": "Resource Type",
    "items": {
      "maxLength": 64,
      "type": "string"
    },
    "minItems": 1,
    "readOnly": true,
    "type": "array"
  },
  "precision": {
    "description": "Accuracy granularity of the exposed value",
    "readOnly": true,
    "type": "number"
  },
  "value": {
    "anyOf": [
      { "type": "array" },
      { "type": "string" },
      { "type": "boolean" },
      { "type": "integer" },
      { "type": "number" },
      { "type": "object" }
    ],
    "description": "The value sensed or actuated by this Resource"
  },
  "n": {
    "description": "Friendly name of the resource",
    "maxLength": 64,
    "readOnly": true,
    "type": "string"
  },
  "range": {
    "description": "The valid range for the value Property",
    "items": [
      { "anyOf": [
        { "type": "number" },
        { "type": "integer" }
      ] },
      { "maxItems": 2, "minItems": 2, "readOnly": true, "type": "array" }
    ]
  }
}
"bloc": {
  "description": "A list of all potential body locations",
  "enum": ["axillary", "body", "ear", "finger", " GITRACT", "mouth", "rectum", "toe", "tympanum"],
  "readOnly": true,
  "type": "string"},
"step": {
  "anyOf": [
    { "type": "integer" },
    { "type": "number" }
  ],
  "description": "Step value across the defined range",
  "readOnly": true},
"id": {
  "description": "Instance ID of this specific resource",
  "maxLength": 64,
  "readOnly": true,
  "type": "string"},
"if": {
  "description": "The interface set supported by this resource",
  "items": [
    { "enum": ["oic.if.baseline", "oic.if.ll", "oic.if.lb", "oic.if.rw", "oic.if.r", "oic.if.a", "oic.if.s"],
     "type": "string" },
    { "minItems": 1,
     "readOnly": true,
     "type": "array" }
  ],
  "type": "object"}
B.22.5 Property Definition

Table 281 The properties definitions of the resource

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>precision</td>
<td>number</td>
<td></td>
<td>Read Only</td>
<td>Accuracy granularity of the exposed value</td>
</tr>
<tr>
<td>rt</td>
<td>array: see schema</td>
<td></td>
<td>Read Only</td>
<td>Resource Type</td>
</tr>
<tr>
<td>step</td>
<td>multiple types: see schema</td>
<td></td>
<td>Read Only</td>
<td>Step value across the defined range</td>
</tr>
<tr>
<td>value</td>
<td>multiple types: see schema</td>
<td></td>
<td>Read Write</td>
<td>The value sensed or actuated by this Resource</td>
</tr>
<tr>
<td>id</td>
<td>string</td>
<td></td>
<td>Read Only</td>
<td>Instance ID of this specific resource</td>
</tr>
<tr>
<td>if</td>
<td>array: see schema</td>
<td></td>
<td>Read Only</td>
<td>The interface set supported by this resource</td>
</tr>
<tr>
<td>bloc</td>
<td>string</td>
<td></td>
<td>Read Only</td>
<td>A list of all potential body locations</td>
</tr>
<tr>
<td>n</td>
<td>string</td>
<td></td>
<td>Read Only</td>
<td>Friendly name of the resource</td>
</tr>
<tr>
<td>range</td>
<td>array: see schema</td>
<td></td>
<td>Read Only</td>
<td>The valid range for the value Property</td>
</tr>
</tbody>
</table>

B.22.6 CRUDN behaviour

Table 282 The CRUDN operations of the resource

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/BodyLocationResURI</td>
<td></td>
<td>get</td>
<td></td>
<td></td>
<td>observe</td>
</tr>
</tbody>
</table>

B.23 Body Location Temperature

B.23.1 Introduction

This resource describes the properties associated with Body location for temperature measurement of a person. The bloc Property is a read-only value that is provided by the server.

B.23.2 Example URI

/BodyLocationTemperatureResURI
B.23.3 Resource Type

The resource type (rt) is defined as: ['oic.r.body.location.temperature'].

B.23.4 Swagger2.0 Definition

```json
{
  "swagger": "2.0",
  "info": {
    "title": "Body Location Temperature",
    "version": "v1.1.0-20160519",
    "license": {
      "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
      "x-description": "Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

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    }
  },
  "schemes": ["http"],
  "consumes": ["application/json"],
  "produces": ["application/json"],
  "paths": {
    "/BodyLocationTemperatureResURI" : {
      "get": {
        "description": "This resource describes the properties associated with Body location for temperature measurement of a person. The bloc Property is a read-only value that is provided by the server. Retrieves Body location for temperature measurement of a person."
      },
      "parameters": [
        {
          "$ref": "#/parameters/interface"
        }
      ],
      "responses": {
        "200": {
          "description": "",
          "x-example": {
            "rt": ["oic.r.body.location.temperature"],
            "id": "unique_example_id",
            "bloc": "ear"
          }
        }
      },
      "schema": { "$ref": "#/definitions/BodyLocationTemperature" }
    }
  },
  "parameters": {
    "interface" : {
      "in": "query",
      "name": "if",
      "type": "string",
      "enum": ["oic.if.s", "oic.if.baseline"]
    }
  },
  "definitions": {
    "BodyLocationTemperature": {
      "properties": {
        "rt": {
          "description": "Resource Type",
```
"items": {
  "maxLength": 64,
  "type": "string"
},
"minItems": 1,
"readOnly": true,
"type": "array"
},

"precision": {
  "description": "Accuracy granularity of the exposed value",
  "readOnly": true,
  "type": "number"
},

"value": {
  "anyOf": [
    {
      "type": "array"
    },
    {
      "type": "string"
    },
    {
      "type": "boolean"
    },
    {
      "type": "integer"
    },
    {
      "type": "number"
    },
    {
      "type": "object"
    }
  ],
  "description": "The value sensed or actuated by this Resource"
},

"n": {
  "description": "Friendly name of the resource",
  "maxLength": 64,
  "readOnly": true,
  "type": "string"
},

"range": {
  "description": "The valid range for the value Property",
  "items": {
    "anyOf": [
      {
        "type": "number"
      },
      {
        "type": "integer"
      }
    ],
  },
  "maxItems": 2,
  "minItems": 2,
  "readOnly": true,
  "type": "array"
},

"bloc": {
  "description": "A list specific to temperature site",}
B.23.5 Property Definition

Table 283 The properties definitions of the resource

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
</table>

Copyright Open Connectivity Foundation, Inc. © 2016-18. All rights Reserved
<table>
<thead>
<tr>
<th>Property</th>
<th>Type</th>
<th>Required</th>
<th>Access</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>precision</td>
<td>number</td>
<td>No</td>
<td>Read Only</td>
<td>Accuracy granularity of the exposed value</td>
</tr>
<tr>
<td>value</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>Read Write</td>
<td>The value sensed or actuated by this Resource</td>
</tr>
<tr>
<td>n</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Friendly name of the resource</td>
</tr>
<tr>
<td>id</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Instance ID of this specific resource</td>
</tr>
<tr>
<td>if</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>The interface set supported by this resource</td>
</tr>
<tr>
<td>rt</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>Resource Type</td>
</tr>
<tr>
<td>bloc</td>
<td>string</td>
<td>Yes</td>
<td>Read Only</td>
<td>A list specific to temperature site</td>
</tr>
<tr>
<td>step</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>Step value across the defined range</td>
</tr>
<tr>
<td>range</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>The valid range for the value Property</td>
</tr>
</tbody>
</table>

**B.23.6 CRUDN behaviour**

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/BodyLocationTemperatureResURI</td>
<td></td>
<td>get</td>
<td></td>
<td></td>
<td>observe</td>
</tr>
</tbody>
</table>

**B.24 Body Scale Atomic Measurement**

**B.24.1 Introduction**

This resource describes the properties associated with Body Scale.

The resource is an atomic measurement of Weight (oic.r.weight), Body Mass Index (BMI) (oic.r.bmi), Height (oic.r.height), Body Fat (oic.r.body.fat), Body Water (oic.r.body.water), Body Soft Lean Mass (oic.r.body.slm), Body Fat Free Mass (oic.r.body.ffm), Observed time (oic.r.time.stamp), and User ID (oic.r.userid).

**B.24.2 Example URI**

/BodyScaleAMResURI

**B.24.3 Resource Type**

The resource type (rt) is defined as: ['oic.r.bodyscale-am']
B.24.4  Swagger2.0 Definition

```json
{
  "swagger": "2.0",
  "info": {
    "title": "Body Scale Atomic Measurement Linked List Representation",
    "version": "v1.1.0-20160519",
    "license": {
      "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
      "x-description": "Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions are met:\n1. Redistributions of source code must retain the above copyright notice, this list of conditions and
the following disclaimer.\n2. Redistributions in binary form must reproduce the above
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other materials provided with the distribution.\n3. THIS SOFTWARE IS PROVIDED BY THE Open
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Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL,
EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS
OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND
ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR
OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY
OF SUCH DAMAGE."
  },
  "schemes": ["http"],
  "consumes": ["application/json"],
  "produces": ["application/json"],
  "paths": {
    "/BodyScaleAMResURI?if=oic.if.ll" : {
      "get": {
        "description": "This resource describes the properties associated with Body Scale.\nThe
resource is an atomic measurement of Weight (oic.r.weight), Body Mass Index (BMI) (oic.r.bmi),
Height (oic.r.height), Body Fat (oic.r.body.fat), Body Water (oic.r.body.water), Body Soft Lean
Mass (oic.r.body.slm), Body Fat Free Mass (oic.r.body.ffm), Observed time (oic.r.time.stamp), and
User ID (oic.r.userid).\nRetrieves the current weight.\n",
        "parameters": [
          {"$ref": "#/parameters/interface-ll"}
        ],
        "responses": {
          "200": {
            "description": "",
            "x-example": [
              {
                "href": "/myWeightResURI",
                "rt": ["oic.r.weight"],
                "if": ["oic.if.s", "oic.if.baseline"]
              },
              {
                "href": "/myBMIResURI",
                "rt": ["oic.r.bmi"],
                "if": ["oic.if.s", "oic.if.baseline"]
              }
            ],
            "schema": { "$ref": "#/definitions/links" }
          }
        }
      }
    },
    "/BodyScaleAMResURI?if=oic.if.baseline" : {
      "get": {
        "description": "This resource describes the properties associated with Body Scale.\nThe
resource is an atomic measurement of Weight (oic.r.weight), Body Mass Index (BMI) (oic.r.bmi),
Height (oic.r.height), Body Fat (oic.r.body.fat), Body Water (oic.r.body.water), Body Soft Lean
Mass (oic.r.body.slm), Body Fat Free Mass (oic.r.body.ffm), Observed time (oic.r.time.stamp), and
User ID (oic.r.userid).\nRetrieves the current weight.\n",
        "parameters": [
          {"$ref": "#/parameters/interface-baseline"}
        ],
        "responses": {
          "200": {
            "description": "",
            "x-example": [
              {
                "href": "/myWeightResURI",
                "rt": ["oic.r.weight"],
                "if": ["oic.if.baseline"]
              },
              {
                "href": "/myBMIResURI",
                "rt": ["oic.r.bmi"],
                "if": ["oic.if.baseline"]
              }
            ],
            "schema": { "$ref": "#/definitions/links" }
          }
        }
      }
    }
  }
}```
"responses": {
  "200": {
    "description": "",
    "x-example": {
      "rt": ["oic.r.bodyscale-am", "oic.wk.atomicmeasurement"],
      "if": ["oic.if.b", "oic.if.ll", "oic.if.baseline"],
      "rts": ["oic.r.weight", "oic.r.bmi"],
      "rts-m": ["oic.r.weight"],
      "links": [ {
        "href": "/myWeightResURI",
        "rt": ["oic.r.weight"],
        "if": ["oic.if.s", "oic.if.baseline"]
      }],
      "href": "myBMIResURI",
      "rt": ["oic.r.bmi"],
      "if": ["oic.if.s", "oic.if.baseline"]
    }
  },
  "schema": { "$ref": "/definitions/baseline" }
},
"/BodyScaleAMResURI?if=oic.if.b": {
  "get": {
    "description": "This resource describes the properties associated with Body Scale. The resource is an atomic measurement of Weight (oic.r.weight), Body Mass Index (BMI) (oic.r.bmi), Height (oic.r.height), Body Fat (oic.r.body.fat), Body Water (oic.r.body.water), Body Soft Lean Mass (oic.r.body.nlm), Body Fat Free Mass (oic.r.body ffm), Observed time (oic.r.time.stamp), and User ID (oic.r.userid). Retrieves the current weight."
    "parameters": [ {
      "$ref": "/parameters/interface-b"
    } ],
    "responses": {
      "200": {
        "description": "",
        "x-example": {
          "href": "/myWeightResURI",
          "rep": {
            "weight": 80,
            "units": "kg"}
        }
      },
      "href": "myBMIResURI",
      "rep": {
        "bmi": 20
      }
    }
  }
},
"parameters": {
  "interface-ll": { "in": "query",
    "name": "if",
  }
}
"interface-b" : {
  "in" : "query",
  "name" : "if",
  "type" : "string",
  "enum" : ["oic.if.b"]
},

"interface-baseline" : {
  "in" : "query",
  "name" : "if",
  "type" : "string",
  "enum" : ["oic.if.baseline"]
},

"interface-all" : {
  "in" : "query",
  "name" : "if",
  "type" : "string",
  "enum" : ["oic.if.b", "oic.if.ll", "oic.if.baseline"]
}
},

"definitions": {
  "links" : {
    "type" : "array",
    "items" : {
      "$ref": "#/definitions/oic.oic-link"
    }
  }
},

"baseline" : {
  "properties": {
    "rt": {
      "items": {
        "enum": ["oic.r.bodyscale-am", "oic.wk.atomicmeasurement"
      },
      "maxItems": 2,
      "minItems": 2,
      "type": "array",
      "uniqueItems": true
    },
    "links": {
      "description": "A set of simple or individual OIC Links."
    }
  }
},

"properties": {
  "anchor": {
    "description": "This is used to override the context URI e.g. override the URI of the containing collection.",
    "format": "uri",
    "maxLength": 256,
    "type": "string"
  },
  "di": {
    "description": "The Device ID formatted according to IETF RFC 4122.",
    "pattern": "^([a-fA-F0-9]{8}(-[a-fA-F0-9]{4}){3})$",
    "type": "string"
  },
  "eps": {
    "description": "the Endpoint information of the target Resource",
    "items": {
      "description": "A set of simple or individual OIC Links."
    }
  }
}
"properties": {
  "ep": {
    "description": "Transport Protocol Suite + Endpoint Locator",
    "format": "uri",
    "type": "string"
  },
  "pri": {
    "description": "The priority among multiple Endpoints",
    "minimum": 1,
    "type": "integer"
  }
},
"type": "object",
"href": {
  "description": "This is the target URI, it can be specified as a Relative Reference or fully-qualified URI."
},
"if": {
  "description": "The interface set supported by this resource",
  "items": {
    "enum": [
      "oic.if.baseline",
      "oic.if.il",
      "oic.if.b",
      "oic.if.rw",
      "oic.if.ri",
      "oic.if.a",
      "oic.if.s"
    ],
    "type": "string"
  },
  "minItems": 1,
  "type": "array"
},
"ins": {
  "description": "The instance identifier for this web link in an array of web links used in collections",
  "type": "integer"
},
"p": {
  "description": "Specifies the framework policies on the Resource referenced by the target URI",
  "properties": {
    "bm": {
      "description": "Specifies the framework policies on the Resource referenced by the target URI for e.g. observable and discoverable",
      "type": "integer"
    }
  },
  "required": ["bm"],
  "type": "object"
},
"rel": {
  "description": "The relation of the target URI referenced by the link to the context URI",
  "oneOf": [
    {
      "default": ["hosts"],
      "items": [
        "maxLength": 64,
        "type": "string"
      ]
    }
  ]
}
    },
    "minItems": 1,
    "type": "array"
  },
  {
    "default": "hosts",
    "maxLength": 64,
    "type": "string"
  }
],
"rt": {
  "description": "Resource Type of the Resource",
  "items": {
    "maxLength": 64,
    "type": "string"
  },
  "minItems": 1,
  "type": "array"
},
"title": {
  "description": "A title for the link relation. Can be used by the UI to provide a context.",
  "maxLength": 64,
  "type": "string"
},
"type": {
  "default": "application/cbor",
  "description": "A hint at the representation of the resource referenced by the target URI. This represents the media types that are used for both accepting and emitting.",
  "items": {
    "maxLength": 64,
    "type": "string"
  },
  "minItems": 1,
  "type": "array"
}
},
"required": [
  "href",
  "rt",
  "if"
],
"type": "object"
},
"n": {
  "description": "Friendly name of the resource",
  "maxLength": 64,
  "readOnly": true,
  "type": "string"
},
"rts": {
  "description": "This contains all possible resource types for this atomic measurement.",
  "items": [
    "enum": [
      "oic.r.weight",
      "oic.r.bmi",
      "oic.r.height",
      "oic.r.body.fat",
      "oic.r.body.water",
      "oic.r.body.slm",
      "oic.r.body.ffm",
      "oic.r.time.stamp",
      "oic.r.userid"
    ]
}
"id": {
  "description": "Instance ID of this specific resource",
  "maxLength": 64,
  "readOnly": true,
  "type": "string"
},
"rts-m": {
  "description": "This contains all mandatory resource types for this atomic measurement.",
  "items": {
    "enum": [
      "oic.r.weight"
    ],
    "maxItems": 1,
    "minItems": 1,
    "type": "array",
    "uniqueItems": true
  },
  "if": {
    "description": "The interface set supported by this resource",
    "items": {
      "enum": [
        "oic.if.baseline",
        "oic.if.ll",
        "oic.if.b",
        "oic.if.lb",
        "oic.if.rw",
        "oic.if.r",
        "oic.if.a",
        "oic.if.s"
      ],
      "type": "string"
    },
    "minItems": 1,
    "readOnly": true,
    "type": "array"
  }
},
"batch-retrieve": {
  "title": "Collection Batch Retrieve Format"
},
"minItems": 1,
"items": {
  "additionalProperties": true,
  "properties": {
    "href": {
      "description": "URI of the target resource relative assuming the collection URI as anchor",
      "type": "string"
    },
    "rep": {
"oneOf": [
  {
    "description": "The response payload from a single resource",
    "type": "object"
  },
  {
    "description": "The response payload from a collection (batch) resource",
    "type": "array"
  }
],
"required": [
  "href",
  "rep"
],
"type": "object"
},
"type": "array"
]
"oic.oic-link": {
  "properties": {
    "anchor": {
      "description": "This is used to override the context URI e.g. override the URI of the containing collection.",
      "format": "uri",
      "maxLength": 256,
      "type": "string"
    },
    "di": {
      "description": "The Device ID formatted according to IETF RFC 4122.",
      "pattern": "^[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{12}$",
      "type": "string"
    },
    "eps": {
      "description": "the Endpoint information of the target Resource",
      "items": {
        "properties": {
          "ep": {
            "description": "Transport Protocol Suite + Endpoint Locator",
            "format": "uri",
            "type": "string"
          },
          "pri": {
            "description": "The priority among multiple Endpoints",
            "minimum": 1,
            "type": "integer"
          }
        },
        "type": "object"
      },
      "type": "array"
    },
    "href": {
      "description": "This is the target URI, it can be specified as a Relative Reference or fully-qualified URI.",
      "format": "uri",
      "maxLength": 256,
      "type": "string"
    },
    "if": {
      "description": "The interface set supported by this resource",
      "items": {
        "enum": [
          "oic.if.baseline",
          "oic.if.ll",
          "oic.if.wi"
        ],
        "type": "array"
      }
    }
  }
}
"oic.if.b",
"oic.if.rw",
"oic.if.r",
"oic.if.a",
"oic.if.s"
],
"type": "string",
"minItems": 1,
"type": "array"
},
"ins": {
"description": "The instance identifier for this web link in an array of web links - used in collections",
"type": "integer"
},
"pt": {
"description": "Specifies the framework policies on the Resource referenced by the target URI",
"properties": {
"bm": {
"description": "Specifies the framework policies on the Resource referenced by the target URI for e.g. observable and discoverable",
"type": "integer"
}
},
"required": [
"bm"
],
"type": "object"
},
"rel": {
"description": "The relation of the target URI referenced by the link to the context URI",
"type": "integer"
},
"oneOf": [
{
"default": ["hosts"
],
"items": {
"maxLength": 64,
"type": "string"
}
},
"minItems": 1,
"type": "array"
},
"default": "hosts",
"maxLength": 64,
"type": "string"
}
]}}

"rt": {
"description": "Resource Type of the Resource",
"items": {
"maxLength": 64,
"type": "string"
},
"minItems": 1,
"type": "array"
},
"title": {
"description": "A title for the link relation. Can be used by the UI to provide a context.",
"maxLength": 64,
"type": "string"
},
"default": "application/cbor",
"description": "A hint at the representation of the resource referenced by the target
URI. This represents the media types that are used for both accepting and emitting.

```json
dict,
  "items": {
    "maxLength": 64,
    "type": "string"
  },
  "minItems": 1,
  "type": "array"
}
```

## B.24.5 Property Definition

Table 285 The properties definitions of the resource

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>rep</td>
<td>multiple types:</td>
<td>Yes</td>
<td>Read Write</td>
<td>URI of the target resource relative assuming the collection URI as anchor</td>
</tr>
<tr>
<td>href</td>
<td>string</td>
<td>Yes</td>
<td>Read Write</td>
<td>URI of the target resource relative assuming the collection URI as anchor</td>
</tr>
<tr>
<td>rt</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Write</td>
<td>A set of simple or individual OIC Links.</td>
</tr>
<tr>
<td>links</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Write</td>
<td>A set of simple or individual OIC Links.</td>
</tr>
<tr>
<td>rts</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Write</td>
<td>This contains all possible resource types for this atomic measurement.</td>
</tr>
<tr>
<td>id</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Instance ID of this specific resource</td>
</tr>
<tr>
<td>n</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Friendly name of the resource</td>
</tr>
<tr>
<td>if</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>The interface set supported by this resource</td>
</tr>
<tr>
<td>rts-m</td>
<td>array: see schema</td>
<td>Yes</td>
<td>Read Write</td>
<td>This contains all mandatory resource types</td>
</tr>
<tr>
<td>Field</td>
<td>Type</td>
<td>Default</td>
<td>Required</td>
<td>Access</td>
</tr>
<tr>
<td>-------</td>
<td>------</td>
<td>---------</td>
<td>----------</td>
<td>--------</td>
</tr>
<tr>
<td>rt</td>
<td>array: see schema</td>
<td>Yes</td>
<td>Read Write</td>
<td>Resource Type of the Resource</td>
</tr>
<tr>
<td>anchor</td>
<td>string</td>
<td>No</td>
<td>Read Write</td>
<td>This is used to override the context URI e.g. override the URI of the containing collection.</td>
</tr>
<tr>
<td>di</td>
<td>string</td>
<td>No</td>
<td>Read Write</td>
<td>The Device ID formatted according to IETF RFC 4122.</td>
</tr>
<tr>
<td>rel</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>Read Write</td>
<td>The relation of the target URI referenced by the link to the context URI</td>
</tr>
<tr>
<td>type</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Write</td>
<td>A hint at the representation of the resource referenced by the target URI. This represents the media types that are used for both accepting and emitting.</td>
</tr>
<tr>
<td>p</td>
<td>object: see schema</td>
<td>No</td>
<td>Read Write</td>
<td>Specifies the framework policies on the Resource referenced by the target URI</td>
</tr>
<tr>
<td>ins</td>
<td>integer</td>
<td>No</td>
<td>Read Write</td>
<td>The instance identifier for this web link in an array of web links - used in collections</td>
</tr>
<tr>
<td>eps</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Write</td>
<td>the Endpoint information of the target Resource</td>
</tr>
<tr>
<td>title</td>
<td>string</td>
<td>No</td>
<td>Read Write</td>
<td></td>
</tr>
</tbody>
</table>
B.24.6 CRUDN behaviour

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/BodyScaleAMResURI</td>
<td>get</td>
<td></td>
<td></td>
<td></td>
<td>observe</td>
</tr>
</tbody>
</table>

Table 286 The CRUDN operations of the resource

B.25 Body Soft Lean Mass

B.25.1 Introduction

This resource describes the properties associated with a person's Body soft lean mass. The unit is a single value that is one of kg, lb or %.

If the unit Property is missing the default is kilograms [kg].

The slm and unit Properties are read-only values that are provided by the server.

When range (from oic.r.baseresource) is omitted the default is 0 to +MAXFLOAT.

B.25.2 Example URI

/BodySoftLeanMassResURI

B.25.3 Resource Type

The resource type (rt) is defined as: ['oic.r.body.slm'].

B.25.4 Swagger2.0 Definition

```json
{
  "swagger": "2.0",
  "info": {
    "title": "BodySoftLeanMass",
    "version": "v1.1.0-20160519",
    "license": {
      "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved."
    }
  }
}
```
"/BodySoftLeanMassResURI": {
  "get": {
    "description": "This resource describes the properties associated with a person's Body soft
    lean mass.
The unit is a single value that is one of kg, lb or %.
If the unit Property is missing
the default is kilograms [kg].
The slm and unit Properties are read-only values that are provided
by the server.
When range (from oic.r.baseresource) is omitted the default is 0 to
+MAXFLOAT.
Retrieves Body soft lean mass of an object.
",
  "parameters": [
    {"$ref": "#/parameters/interface"}
  ],
  "responses": {
    "200": {
      "description": "",
      "x-example": {
        "rt": ["oic.r.body.slm"],
        "id": "unique_example_id",
        "slm": 20,
        "units": "kg"
      }
    }
  }
}
}
"parameters": {
  "interface": {
    "in": "query",
    "name": "if",
    "type": "string",
    "enum": ["oic.if.s", "oic.if.baseline"]
  }
},
"definitions": {
  "BodySoftLeanMass": {
    "properties": {
      "rt": {
        "description": "Resource Type",
        "items": {
          "maxLength": 64,
          "type": "string"
        },
        "minItems": 1,
        "readOnly": true,
        "type": "array"
      },
      "units": {
        "description": "Body soft lean mass units",
        "enum": ["kg", "lb", "%"],
        "readOnly": true,
        "type": "string"
      }
    }
  }
},
"schemes": ["http"],
"consumes": ["application/json"],
"produces": ["application/json"],
"paths": {
  
}
"precision": {
  "description": "Accuracy granularity of the exposed value",
  "readOnly": true,
  "type": "number"
},
"value": {
  "anyOf": [
    {"type": "array"},
    {"type": "string"},
    {"type": "boolean"},
    {"type": "integer"},
    {"type": "number"},
    {"type": "object"}
  ],
  "description": "The value sensed or actuated by this Resource"
},
"n": {
  "description": "Friendly name of the resource",
  "maxLength": 64,
  "readOnly": true,
  "type": "string"
},
"slm": {
  "description": "Body soft lean mass.",
  "minimum": 0,
  "readOnly": true,
  "type": "number"
},
"range": {
  "description": "The valid range for the value Property",
  "items": [
    {"anyOf": [
      {"type": "number"},
      {"type": "integer"}
    ]}
  ],
  "maxItems": 2,
  "minItems": 2,
  "readOnly": true,
  "type": "array"
},
"step": {
  "anyOf": [
### B.25.5 Property Definition

Table 287 The properties definitions of the resource

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>id</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Instance ID of this specific resource</td>
</tr>
<tr>
<td>if</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>The interface set supported by this resource</td>
</tr>
<tr>
<td>step</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>Step value across the defined range</td>
</tr>
<tr>
<td>range</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td></td>
</tr>
</tbody>
</table>
### B.25.6 CRUDN behaviour

<table>
<thead>
<tr>
<th>Property</th>
<th>Type</th>
<th>Access</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>units</td>
<td>string</td>
<td>No</td>
<td>Body soft lean mass units</td>
</tr>
<tr>
<td>rt</td>
<td>array: see schema</td>
<td>No</td>
<td>Resource Type</td>
</tr>
<tr>
<td>precision</td>
<td>number</td>
<td>No</td>
<td>Accuracy granularity of the exposed value</td>
</tr>
<tr>
<td>slm</td>
<td>number</td>
<td>Yes</td>
<td>Body soft lean mass.</td>
</tr>
<tr>
<td>value</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>The value sensed or actuated by this Resource</td>
</tr>
<tr>
<td>n</td>
<td>string</td>
<td>No</td>
<td>Friendly name of the resource</td>
</tr>
</tbody>
</table>

#### Table 288 The CRUDN operations of the resource

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/BodySoftLeanMassResURI</td>
<td>get</td>
<td></td>
<td></td>
<td></td>
<td>observe</td>
</tr>
</tbody>
</table>

#### B.26 Body Thermometer Atomic Measurement

##### B.26.1 Introduction

This resource describes the properties associated with body thermometer. The resource is an atomic measurement of temperature (oic.r.temperature), body location for temperature (oic.r.body.location.temperature), observed time (oic.r.time.stamp), and user ID (oic.r.userid).

##### B.26.2 Example URI

/BodyThermometerAMResURI

##### B.26.3 Resource Type

The resource type (rt) is defined as: ['oic.r.bodythermometer-am']

##### B.26.4 Swagger2.0 Definition

```json
{
    "swagger": "2.0",
    "info": {
        "title": "Body Thermometer Atomic Measurement Batch Representation",
        "version": "v1.1.0-20160519",
        "license": {
            "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved."
        }
    }
}
```

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"schemes": ["http"],
"consumes": ["application/json"],
"produces": ["application/json"],
"paths": {
  "/BodyThermometerAMResURI?if=oic.if.b" : {
    "get": {
      "description": "This resource describes the properties associated with body thermometer. The resource is an atomic measurement of temperature (oic.r.temperature), body location for temperature (oic.r.body.location.temperature), observed time (oic.r.time.stamp), and user ID (oic.r.userid)\nReceives the current body temperature.\n",
      "parameters": [
        {"$ref": "/#/parameters/interface-b"}
      ],
      "responses": {
        "200": {
          "description": ",\n          "x-example": [
            {
              "href": "/myTemperatureResURI",
              "rep": {
                "temperature": 38,
                "units": "C"
              }
            }
          ]
        }
      },
      "schema": { "$ref": "/#/definitions/batch-retrieve" }
    }
  },
  "/BodyThermometerAMResURI?if=oic.if.ll" : {
    "get": {
      "description": "This resource describes the properties associated with body thermometer. The resource is an atomic measurement of temperature (oic.r.temperature), body location for temperature (oic.r.body.location.temperature), observed time (oic.r.time.stamp), and user ID (oic.r.userid)\nReceives the current body temperature.\n",
      "parameters": [
        {"$ref": "/#/parameters/interface-ll"}
      ],
      "responses": {
        "200": {
          "description": ",\n          "x-example": [
            {
              "href": "/myTemperatureResURI",
              "rt": ["oic.r.temperature"],
              "if": ["oic.if.s", "oic.if.baseline"]
            }
          ]
        }
      },
      "schema": { "$ref": "/#/definitions/batch-retrieve" }
    }
  }
}
"href": "/myBodyLocationForTemperatureResURI",
"rt": ["oic.r.body.location.temperature"],
"if": ["oic.if.s", "oic.if.baseline"]
}
}

"schema": { "$ref": "#/definitions/links" }
}

"get": {
"parameters": [ {
"$ref": "/parameters/interval-baseline"
} ],
"responses": {
"200": {
"description": "Retrieves the current body temperature."
}
}

"schema": { "$ref": "#/definitions/baseline" }

"description": "This resource describes the properties associated with body
thermometer. It is an atomic measurement of temperature (oic.r.temperature), body
location for temperature (oic.r.body.location.temperature), observed time (oic.r.time.stamp), and
user ID (oic.r.user.id). It retrieves the current body temperature."

"parameters": [ {
"$ref": "/parameters/interval-baseline"
} ],
"x-example": {

"rt": ["oic.r.bodythermometer-am", "oic.wk.atomicmeasurement"],
"if": ["oic.if.b", "oic.if.ll", "oic.if.baseline"],
"rts": ["oic.r.temperature", "oic.r.body.location.temperature"],
"rts-m": ["oic.r.temperature"],

"links": [ {
"href": "/myTemperatureResURI",
"rt": ["oic.r.temperature"],
"if": ["oic.if.s", "oic.if.baseline"]
} ],

"href": "/myBodyLocationForTemperatureResURI",
"rt": ["oic.r.body.location.temperature"],
"if": ["oic.if.s", "oic.if.baseline"]
}

"schema": { "$ref": "#/definitions/baseline" }

"parameters": {
"interface-ll" : {
"in": "query",
"name": "if",
"type": "string",
"enum": ["oic.if.ll"]
},

"interface-b" : {
"in": "query",
"name": "if",
"type": "string",
"enum": ["oic.if.b"]
},

"interface-baseline" : {
"in": "query",
"name": "if",
"type": "string",
"enum": ["oic.if.baseline"]
},

"interface-all" : {
"in": "query",
"name": "if",
"type": "string",
"enum": ["oic.if.all"]
}
"name": "if",
"type": "string",
"enum": ["oic.if.b", "oic.if.ll", "oic.if.baseline"]
}
"definitions": {
  "batch-retrieve": {
    "title": "Collection Batch Retrieve Format",
    "minItems": 1,
    "items": {
      "additionalProperties": true,
      "properties": {
        "href": {
          "description": "URI of the target resource relative assuming the collection URI as anchor",
          "type": "string"
        },
        "rep": {
          "oneOf": [
            {
              "description": "The response payload from a single resource",
              "type": "object"
            },
            {
              "description": "The response payload from a collection (batch) resource",
              "type": "array"
            }
          ]
        }
      }
    },
    "required": ["href", "rep"],
    "type": "object"
  }
},
"links": {
  "type": "array",
  "items": {
    "$ref": "#/definitions/oic.oic-link"
  }
},
"baseline": {
  "properties": {
    "rt": {
      "items": {
        "enum": ["oic.r.bodythermometer-am", "oic.wk.atomicmeasurement"
      ],
      "maxItems": 2,
      "minItems": 2,
      "type": "array"
    }
  }
},
"uniqueItems": true,

"links": {
  "description": "A set of simple or individual OIC Links.",
  "items": [
    "properties": {
      "anchor": {
        "description": "This is used to override the context URI e.g. override the URI of
the containing collection.",
        "format": "uri",
        "maxLength": 256,
        "type": "string"
      },
      "di": {
        "description": "The Device ID formatted according to IETF RFC 4122.",
        "pattern": "^[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-
9]{12}$",
        "type": "string"
      },
      "eps": {
        "description": "the Endpoint information of the target Resource",
        "items": {
          "properties": {
            "ep": {
              "description": "Transport Protocol Suite + Endpoint Locator",
              "format": "uri",
              "type": "string"
            }
          },
          "pri": {
            "description": "The priority among multiple Endpoints",
            "minimum": 1,
            "type": "integer"
          }
        },
        "type": "object"
      },
      "href": {
        "description": "This is the target URI, it can be specified as a Relative Reference
or fully-qualified URI.",
        "format": "uri",
        "maxLength": 256,
        "type": "string"
      },
      "if": {
        "description": "The interface set supported by this resource",
        "items": {
          "enum": [
            "oic.if.baseline",
            "oic.if.ll",
            "oic.if.b", "oic.if.rw", "oic.if.a", "oic.if.s"
          ],
          "type": "string"
        }
      },
      "ins": {
        "description": "The instance identifier for this web link in an array of web links
- used in collections",
        "type": "integer"
      }
    },
    "p": {
      "description": "Specifies the framework policies on the Resource referenced by the
"}
target URI",
    "properties": {
        "bm": {
            "description": "Specifies the framework policies on the Resource referenced by
                        the target URI for e.g. observable and discoverable",
            "type": "integer"
        }
    },
    "required": [
        "bm"
    ],
    "type": "object"
},
"rel": {
    "description": "The relation of the target URI referenced by the link to the
context URI",
    "oneOf": [
        {
            "default": [
                "hosts"
            ],
            "items": {
                "maxLength": 64,
                "type": "string"
            },
            "minItems": 1,
            "type": "array"
        },
        {
            "default": "hosts",
            "maxLength": 64,
            "type": "string"
        }
    ]
},
"rt": {
    "description": "Resource Type of the Resource",
    "items": {
        "maxLength": 64,
        "type": "string"
    },
    "minItems": 1,
    "type": "array"
},
"title": {
    "description": "A title for the link relation. Can be used by the UI to provide a
context.",
    "maxLength": 64,
    "type": "string"
},
"type": {
    "default": "application/cbor",
    "description": "A hint at the representation of the resource referenced by the
target URI. This represents the media types that are used for both accepting and emitting.",
    "items": {
        "maxLength": 64,
        "type": "string"
    },
    "minItems": 1,
    "type": "array"
}]
"required": [
    "href",
    "rt",
    "if"
],
"type": "object"
}.

"n": {
  "description": "Friendly name of the resource",
  "maxLength": 64,
  "readOnly": true,
  "type": "string"
},

"rts": {
  "description": "This contains all possible resource types for this atomic measurement.",
  "items": [
    "enum": [
      "oic.r.temperature",
      "oic.r.body.location.temperature",
      "oic.r.time.observed",
      "oic.r.userid"
    ],
    "minItems": 1,
    "type": "array",
    "uniqueItems": true
  ],

  "id": {
    "description": "Instance ID of this specific resource",
    "maxLength": 64,
    "readOnly": true,
    "type": "string"
  },

  "rts-m": {
    "description": "This contains all mandatory resource types for this atomic measurement.",
    "items": [
      "enum": [
        "oic.r.temperature"
      ],
      "maxItems": 1,
      "minItems": 1,
      "type": "array",
      "uniqueItems": true
    ],

    "if": {
      "description": "The interface set supported by this resource",
      "items": [
        "enum": [
          "oic.if.baseline",
          "oic.if.ll",
          "oic.if.b",
          "oic.if.lb",
          "oic.if.rw",
          "oic.if.r",
          "oic.if.e",
          "oic.if.s"
        ],
        "type": "string"
      ],
      "minItems": 1,
      "readOnly": true,
      "type": "array"
    }
  }
}
"oic.oic-link": {
  "properties": {
    "anchor": {
      "description": "This is used to override the context URI e.g. override the URI of the containing collection.,
      "format": "uri",
      "maxLength": 256,
      "type": "string"
    },
    "di": {
      "description": "The Device ID formatted according to IETF RFC 4122.",
      "pattern": "^[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{12}$",
      "type": "string"
    },
    "eps": {
      "description": "the Endpoint information of the target Resource",
      "items": {
        "ep": {
          "description": "Transport Protocol Suite + Endpoint Locator",
          "format": "uri",
          "type": "string"
        },
        "pri": {
          "description": "The priority among multiple Endpoints",
          "minimum": 1,
          "type": "integer"
        }
      },
      "type": "object"
    },
    "href": {
      "description": "This is the target URI, it can be specified as a Relative Reference or fully-qualified URI.",
      "format": "uri",
      "maxLength": 256,
      "type": "string"
    },
    "if": {
      "description": "The interface set supported by this resource",
      "items": {
        "enum": [
          "oic.if.baseline",
          "oic.if.ll",
          "oic.if.b",
          "oic.if.rw",
          "oic.if.r",
          "oic.if.a",
          "oic.if.s"
        ],
        "type": "string"
      },
      "minItems": 1,
      "type": "array"
    },
    "ins": {
      "description": "The instance identifier for this web link in an array of web links - used in collections",
      "type": "integer"
    },
    "p": {
      "description": "Specifies the framework policies on the Resource referenced by the target URI",
      "properties": {
        "hm": {
          "description": "Specifies the framework policies on the Resource referenced by the
target URI for e.g. observable and discoverable",
"type": "integer"
},
  "required": [ "bm"
  ],
  "type": "object"
},
  "rel": {
    "description": "The relation of the target URI referenced by the link to the context URI",
    "oneOf": [
      { "default": [ "hosts" ],
        "items": {
          "maxLength": 64,
          "type": "string"
        },
        "minItems": 1,
        "type": "array"
      },
      { "default": "hosts",
        "maxLength": 64,
        "type": "string"
      }
    ],
    "title": {
      "description": "A title for the link relation. Can be used by the UI to provide a context."
    }
  },
  "rt": {
    "description": "Resource Type of the Resource",
    "items": {
      "maxLength": 64,
      "type": "string"
    },
    "minItems": 1,
    "type": "array"
  },
  "title": {
    "description": "A hint at the representation of the resource referenced by the target URI. This represents the media types that are used for both accepting and emitting."
  }
},
  "required": [ "href", "rt", "if" ]
  },
  "type": "object"
}
Table 289 The properties definitions of the resource

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>title</td>
<td>string</td>
<td>No</td>
<td>Read Write</td>
<td>A title for the link relation. Can be used by the UI to provide a context.</td>
</tr>
<tr>
<td>di</td>
<td>string</td>
<td>No</td>
<td>Read Write</td>
<td>The Device ID formatted according to IETF RFC 4122.</td>
</tr>
<tr>
<td>href</td>
<td>string</td>
<td>Yes</td>
<td>Read Write</td>
<td>This is the target URI, it can be specified as a Relative Reference or fully-qualified URI.</td>
</tr>
<tr>
<td>anchor</td>
<td>string</td>
<td>No</td>
<td>Read Write</td>
<td>This is used to override the context URI e.g. override the URI of the containing collection.</td>
</tr>
<tr>
<td>type</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Write</td>
<td>A hint at the representation of the resource referenced by the target URI. This represents the media types that are used for both accepting and emitting.</td>
</tr>
<tr>
<td>p</td>
<td>object: see schema</td>
<td>No</td>
<td>Read Write</td>
<td>Specifies the framework policies on the Resource referenced by the target URI</td>
</tr>
<tr>
<td>rt</td>
<td>array: see schema</td>
<td>Yes</td>
<td>Read Write</td>
<td>Resource Type of the Resource</td>
</tr>
<tr>
<td>ins</td>
<td>integer</td>
<td>No</td>
<td>Read Write</td>
<td>The instance identifier for this web link in an</td>
</tr>
<tr>
<td>Field</td>
<td>Array value</td>
<td>Required</td>
<td>Field Type</td>
<td>Description</td>
</tr>
<tr>
<td>-------</td>
<td>-------------</td>
<td>----------</td>
<td>------------</td>
<td>-------------</td>
</tr>
<tr>
<td>eps</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Write</td>
<td>the Endpoint information of the target Resource</td>
</tr>
<tr>
<td>rel</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>Read Write</td>
<td>The relation of the target URI referenced by the link to the context URI</td>
</tr>
<tr>
<td>if</td>
<td>array: see schema</td>
<td>Yes</td>
<td>Read Write</td>
<td>The interface set supported by this resource</td>
</tr>
<tr>
<td>rep</td>
<td>multiple types: see schema</td>
<td>Yes</td>
<td>Read Write</td>
<td></td>
</tr>
<tr>
<td>href</td>
<td>string</td>
<td>Yes</td>
<td>Read Write</td>
<td>URI of the target resource relative assuming the collection URI as anchor</td>
</tr>
<tr>
<td>id</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Instance ID of this specific resource</td>
</tr>
<tr>
<td>rts</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Write</td>
<td>This contains all possible resource types for this atomic measurement.</td>
</tr>
<tr>
<td>rts-m</td>
<td>array: see schema</td>
<td>Yes</td>
<td>Read Write</td>
<td>This contains all mandatory resource types for this atomic measurement.</td>
</tr>
<tr>
<td>rt</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Write</td>
<td></td>
</tr>
<tr>
<td>links</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Write</td>
<td>A set of simple or individual OIC Links.</td>
</tr>
<tr>
<td>n</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Friendly name of the resource</td>
</tr>
<tr>
<td>if</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>The interface set supported by this resource</td>
</tr>
</tbody>
</table>
B.26.6 CRUDN behaviour

Table 290 The CRUDN operations of the resource

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/BodyThermometerAMResURI</td>
<td>get</td>
<td></td>
<td></td>
<td></td>
<td>observe</td>
</tr>
</tbody>
</table>

B.27 Body Water

B.27.1 Introduction

This resource describes the properties associated with a person’s Body water. The unit is a single value that is one of kg or lb. If the unit Property is missing the default is kilograms [kg]. The bwater and unit Properties are read-only values that are provided by the server. When range (from oic.r.baseresource) is omitted the default is 0 to +MAXFLOAT.

B.27.2 Example URI

/BodyWaterResURI

B.27.3 Resource Type

The resource type (rt) is defined as: ['oic.r.body.water'].

B.27.4 Swagger2.0 Definition

```json
{
    "swagger": "2.0",
    "info": {
        "title": "Body Water",
        "version": "v1.1.0-20160519",
        "license": {
            "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved."
        }
    },
    "schemes": ["http"],
    "consumes": ["application/json"],
    "produces": ["application/json"],
    "paths": {
        "/BodyWaterResURI": {
            "get": {
                "description": "This resource describes the properties associated with a person’s Body water. The unit is a single value that is one of kg or lb. If the unit Property is missing the default is kilograms [kg]. The bwater and unit Properties are read-only values that are provided by the server. When range (from oic.r.baseresource) is omitted the default is 0 to +MAXFLOAT. Retrieves Body water of an object."
            },
            "parameters": [
                {
                    "$ref": "#/parameters/interface"
                }
            ],
            "responses": {
                "200": {
                    "description": "",
                }
            }
        }
    }
}
```
"x-example":
{
"rt": ["oic.r.body.water"],
"id": "unique_example_id",
"bwater": 20,
"units": "kg"
}

"schema": { "$ref": "#/definitions/BodyWater" }

"parameters": {
"interface": {
"in": "query",
"name": "if",
"type": "string",
"enum": ["oic.if.s", "oic.if.baseline"]
}
},

"definitions": {
"BodyWater": {
"properties": {
"rt": {
 "description": "Resource Type",
 "items": {
 "maxLength": 64,
 "type": "string"
 },
 "minItems": 1,
 "readOnly": true,
 "type": "array"
 },

 "step": {
 "anyOf": [
 { "type": "integer"
 },
 { "type": "number"
 }
 ],
 "description": "Step value across the defined range",
 "readOnly": true
 },

 "precision": {
 "description": "Accuracy granularity of the exposed value",
 "readOnly": true,
 "type": "number"
 },

 "value": {
 "anyOf": [
 { "type": "array"
 },
 { "type": "string"
 },
 { "type": "boolean"
 }
 ]
}
"type": "integer",
},
  { "type": "number"
},
  { "type": "object"
},
  { "description": "The value sensed or actuated by this Resource"
},
  { "n": {
    "description": "Friendly name of the resource",
    "maxLength": 64,
    "readOnly": true,
    "type": "string"
  },
  "units": {
    "description": "Body water unit",
    "enum": [
      "kg",
      "lb"
    ],
    "readOnly": true,
    "type": "string"
  },
  "range": {
    "description": "The valid range for the value Property",
    "items": {
      "anyOf": [
        { "type": "number" },
        { "type": "integer" }
      ]
    },
    "maxItems": 2,
    "minItems": 2,
    "readOnly": true,
    "type": "array"
  },
  { "id": {
    "description": "Instance ID of this specific resource",
    "maxLength": 64,
    "readOnly": true,
    "type": "string"
  },
  "bwater": {
    "description": "Body water",
    "minimum": 0,
    "readOnly": true,
    "type": "number"
  },
  { "if": {
    "description": "The interface set supported by this resource",
    "items": [
      "enum": [
### B.27.5 Property Definition

Table 291 The properties definitions of the resource

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>rt</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>Resource Type</td>
</tr>
<tr>
<td>range</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>The valid range for the value Property</td>
</tr>
<tr>
<td>value</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>Read Write</td>
<td>The value sensed or actuated by this Resource</td>
</tr>
<tr>
<td>n</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Friendly name of the resource</td>
</tr>
<tr>
<td>id</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Instance ID of this specific resource</td>
</tr>
<tr>
<td>bwater</td>
<td>number</td>
<td>Yes</td>
<td>Read Only</td>
<td>Body water.</td>
</tr>
<tr>
<td>precision</td>
<td>number</td>
<td>No</td>
<td>Read Only</td>
<td>Accuracy granularity of the exposed value</td>
</tr>
<tr>
<td>units</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Body water unit</td>
</tr>
<tr>
<td>if</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>The interface set supported by this resource</td>
</tr>
<tr>
<td>step</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>Read Only</td>
<td></td>
</tr>
</tbody>
</table>
Table 292 The CRUDN operations of the resource

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/BodyWaterResURI</td>
<td>get</td>
<td></td>
<td></td>
<td></td>
<td>observe</td>
</tr>
</tbody>
</table>

B.28 Brewing

B.28.1 Introduction

This resource describes the attributes associated with brewing. This resource is used for configuration only. Operation is handled independently of this resource. The amount requested is in ml. The strength of a brewed drink is an integer, the range of which may be enforced by the presence of a strengthrange Property.

B.28.2 Example URI

/BrewingResURI

B.28.3 Resource Type

The resource type (rt) is defined as: ['oic.r.brewing'].

B.28.4 Swagger2.0 Definition

```json
{
  "swagger": "2.0",
  "info": {
    "title": "Brewing",
    "version": "v1.1.0-20170815",
    "license": {
      "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
      "x-description": "Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

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"
    }
  }
}
```
"200": {
  "description": "",
  "x-example": {
    "rt": ["oic.r.brewing"],
    "id": "unique_example_id",
    "amountrequested": 120,
    "strength": 8,
    "strengthrange": [1,10]
  }
},
"schema": { "$ref": "#/definitions/Brewing" }
},
"post": {
  "description": "Sets the brewing values\n",
  "parameters": [ {
    "$ref": "#/parameters/interface",
  }
  ],
  "responses": {
    "200": {
      "description": "",
      "x-example": {
        "id": "unique_example_id",
        "amountrequested": 120,
        "strength": 8
      }
    }
  },
  "parameters": {
    "interface": {
      "in": "query",
      "name": "if",
      "type": "string",
      "enum": ["oic.if.rw", "oic.if.baseline"]
    }
  },
  "definitions": {
    "Brewing": {
      "properties": {
        "rt": {
          "description": "Resource Type",
          "items": {
            "maxLength": 64,
            "type": "string"
          },
          "minItems": 1,
          "readOnly": true,
          "type": "array"
        },
        "strength": }
      }
    }
  }
}
"description": "The strength of a brewed drink.",
"type": "integer"
},

"amountrequested" :
{
"description": "The amount requested in ml.",
"type": "integer"
},

"precision" :
{
"description": "Accuracy granularity of the exposed value",
"readOnly": true,
"type": "number"
},

"value" :
{
"anyOf": [
{
"type": "array"
},
{
"type": "string"
},
{
"type": "boolean"
},
{
"type": "integer"
},
{
"type": "number"
},
{
"type": "object"
}
],
"description": "The value sensed or actuated by this Resource"
},

"n" :
{
"description": "Friendly name of the resource",
"maxLength": 64,
"readOnly": true,
"type": "string"
},

"range" :
{
"description": "The valid range for the value Property",
"items": [
"anyOf": [
{
"type": "number"
},
{
"type": "integer"
}
]
,"maxItems": 2,
"minItems": 2,
"readOnly": true,
"type": "array"
},

"strengthrange" :
{

B.28.5 Property Definition

Table 293 The properties definitions of the resource

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>range</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>The valid range for the value Property</td>
</tr>
<tr>
<td>Property</td>
<td>Type</td>
<td>Access</td>
<td>Description</td>
<td></td>
</tr>
<tr>
<td>----------</td>
<td>------</td>
<td>--------</td>
<td>-------------</td>
<td></td>
</tr>
<tr>
<td>if</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>The interface set supported by this resource</td>
</tr>
<tr>
<td>rt</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>Resource Type</td>
</tr>
<tr>
<td>strengthrange</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td></td>
</tr>
<tr>
<td>step</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>Step value across the defined range</td>
</tr>
<tr>
<td>value</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>Read Write</td>
<td>The value sensed or actuated by this Resource</td>
</tr>
<tr>
<td>strength</td>
<td>integer</td>
<td>No</td>
<td>Read Write</td>
<td>The strength of a brewed drink.</td>
</tr>
<tr>
<td>id</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Instance ID of this specific resource</td>
</tr>
<tr>
<td>n</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Friendly name of the resource</td>
</tr>
<tr>
<td>precision</td>
<td>number</td>
<td>No</td>
<td>Read Only</td>
<td>Accuracy granularity of the exposed value</td>
</tr>
<tr>
<td>amountrequested</td>
<td>integer</td>
<td>Yes</td>
<td>Read Write</td>
<td>The amount requested in ml.</td>
</tr>
</tbody>
</table>

**B.28.6 CRUDN behaviour**

**Table 294 The CRUDN operations of the resource**

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/BrewingResURI</td>
<td>get</td>
<td>post</td>
<td></td>
<td></td>
<td>observe</td>
</tr>
</tbody>
</table>

**B.29 Brightness**

**B.29.1 Introduction**

This resource describes the brightness of a light or lamp. brightness is an integer showing the current brightness level as a quantized representation in the range 0-100. A brightness of 0 is the minimum for the resource. A brightness of 100 is the maximum for the resource.

**B.29.2 Example URI**

/BrightnessResURI
The resource type (rt) is defined as: ['oic.r.light.brightness'].

**B.29.4 Swagger2.0 Definition**

```json
{
  "swagger": "2.0",
  "info": {
    "title": "Brightness",
    "version": "v1.1.0-20160519",
    "license": {
      "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
      "x-description": "Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:
        1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
        2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.
        3. THIS SOFTWARE IS PROVIDED BY THE Open Connectivity Foundation, INC. "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR WARRANTIES OF NONINFRINGEMENT, ARE DISCLAIMED.
        4. IN NO EVENT SHALL THE Open Connectivity Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
        HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE."
    }
  },
  "schemes": ["http"],
  "consumes": ["application/json"],
  "produces": ["application/json"],
  "paths": {
    "/BrightnessResURI" : {
      "get": {
        "description": "This resource describes the brightness of a light or lamp.
brightness is an integer showing the current brightness level as a quantized representation in the range 0-100.
A brightness of 0 is the minimum for the resource.
A brightness of 100 is the maximum for the resource.
Retrieves the current brightness level.",
        "parameters": [ {
          "$ref": "#/parameters/interface"
        },
        "responses": {
          "200": {
            "description": "",
            "x-example": {
              "rt": ["oic.r.light.brightness"],
              "id": "unique_example_id",
              "brightness": 50
            }
          }
        },
        "post": {
          "description": "Sets the desired brightness level.
",
          "parameters": [ {
            "$ref": "#/parameters/interface",
            "name": "body",
            "in": "body",
            "required": true,
            "schema": { "$ref": "#/definitions/Brightness" },
            "x-example": {
              "id": "unique_example_id",
              "brightness": 10
            }
          }
        }
      }
    }
  }
}
```
"responses": {
  "200": {
    "description": "Indicates that the brightness was changed. \nThe new brightness level is provided in the response.\n",
    "x-example": [
      {
        "id": "unique_example_id",
        "brightness": 10
      }
    ],
    "schema": { "$ref": "#/definitions/Brightness" }
  }
},
"parameters": {
  "interface": {
    "in": "query",
    "name": "if",
    "type": "string",
    "enum": ["oic.if.a", "oic.if.baseline"]
  }
},
"definitions": {
  "Brightness": {
    "properties": {
      "rt": {
        "description": "Resource Type",
        "items": {
          "maxLength": 64,
          "type": "string"
        },
        "minItems": 1,
        "readOnly": true,
        "type": "array"
      },
      "brightness": {
        "description": "Quantized representation in the range 0-100 of the current sensed or set value for Brightness",
        "maximum": 100,
        "minimum": 0,
        "type": "integer"
      },
      "precision": {
        "description": "Accuracy granularity of the exposed value",
        "readOnly": true,
        "type": "number"
      },
      "value": {
        "anyOf": [
          {
            "type": "array"
          },
          {
            "type": "string"
          },
          {
            "type": "boolean"
          },
          {
            "type": "integer"
          }
        ]
      }
    }
  }
}


```json
{
    "type": "number"
},

{ "type": "object"
}

{ "description": "The value sensed or actuated by this Resource" }

"n": {
    "description": "Friendly name of the resource",
    "maxLength": 64,
    "readOnly": true,
    "type": "string"
},

"range": {
    "description": "The valid range for the value Property",
    "items": [
        { "anyOf": [
            { "type": "number"
          },
            { "type": "integer"
          }
        ]
      },
      { "type": "integer"
        }
    ]
},

"step": {
    "anyOf": [
        { "type": "integer"
        },
        { "type": "number"
        }
    ],
    "description": "Step value across the defined range",
    "readOnly": true
},

"id": {
    "description": "Instance ID of this specific resource",
    "maxLength": 64,
    "readOnly": true,
    "type": "string"
},

"if": {
    "description": "The interface set supported by this resource",
    "items": {
        "enum": [
            "oic.if.baseline",
            "oic.if.ll",
            "oic.if.b",
            "oic.if.lb",
            "oic.if.rw",
            "oic.if.r",
            "oic.if.a"
        ]
    }
}
```
### B.29.5 Property Definition

Table 295: The properties definitions of the resource

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>brightness</td>
<td>integer</td>
<td>Yes</td>
<td>Read Write</td>
<td>Quantized representation in the range 0-100 of the current sensed or set value for Brightness</td>
</tr>
<tr>
<td>range</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>The valid range for the value Property</td>
</tr>
<tr>
<td>value</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>Read Write</td>
<td>The value sensed or actuated by this Resource</td>
</tr>
<tr>
<td>precision</td>
<td>number</td>
<td>No</td>
<td>Read Only</td>
<td>Accuracy granularity of the exposed value</td>
</tr>
<tr>
<td>rt</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>Resource Type</td>
</tr>
<tr>
<td>id</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Instance ID of this specific resource</td>
</tr>
<tr>
<td>if</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>The interface set supported by this resource</td>
</tr>
<tr>
<td>step</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>Step value across the defined range</td>
</tr>
<tr>
<td>n</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Friendly name of the resource</td>
</tr>
</tbody>
</table>
B.29.6  CRUDN behaviour

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/BrightnessResURI</td>
<td>get</td>
<td>post</td>
<td></td>
<td></td>
<td>observe</td>
</tr>
</tbody>
</table>

B.30  Button Switch

B.30.1  Introduction

This resource describes the operation of a button style switch.

The value is a boolean.

A value of 'true' means that the button is being pushed/pressed.
A value of 'false' means that the button is not being pushed/pressed.

B.30.2  Example URI

/ButtonResURI

B.30.3  Resource Type

The resource type (rt) is defined as: ['oic.r.button'].

B.30.4  Swagger2.0 Definition

```json
{
    "swagger": "2.0",
    "info": {
        "title": "Button Switch",
        "version": "v1.1.0-20160519",
        "license": {
            "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved."
        }
    },
    "schemes": ["http"],
    "consumes": ["application/json"],
    "produces": ["application/json"],
    "paths": {
        "/ButtonResURI": {
            "get": {
                "description": "This resource describes the operation of a button style switch. The value is a boolean. A value of 'true' means that the button is being pushed/pressed. A value of 'false' means that the button is not being pushed/pressed."
            }
        }
    }
}
```
"value": true
}

"schema": {
"$ref": "/definitions/Button"
}

"parameters": {
"interface": {
"in": "query",
"name": "if",
"type": "string",
"enum": ["oic.if.s", "oic.if.baseline"]
}

"definitions": {
"Button": {
"properties": {
"rt": {
"description": "Resource Type",
"items": {
"maxLength": 64,
"type": "string"
},
"minItems": 1,
"readOnly": true,
"type": "array"
},

"precision": {
"description": "Accuracy granularity of the exposed value",
"readOnly": true,
"type": "number"
},

"value": {
"description": "Status of the button",
"readOnly": true,
"type": "boolean"
},

"n": {
"description": "Friendly name of the resource",
"maxLength": 64,
"readOnly": true,
"type": "string"
},

"range": {
"description": "The valid range for the value Property",
"items": {
"anyOf": [{
"type": "number",
"maxItems": 2,
"minItems": 2,
"readOnly": true,
"type": "array"
}]
}

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B.30.5 Property Definition

Table 297 The properties definitions of the resource

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>precision</td>
<td>number</td>
<td>No</td>
<td>Read Only</td>
<td>Accuracy granularity of the exposed value</td>
</tr>
<tr>
<td>step</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>Step value across the defined range</td>
</tr>
<tr>
<td>n</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td></td>
</tr>
</tbody>
</table>
B.30.6 CRUDN behaviour

Table 298 The CRUDN operations of the resource

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/ButtonResURI</td>
<td>get</td>
<td></td>
<td></td>
<td></td>
<td>observe</td>
</tr>
</tbody>
</table>

B.31 Carbon Dioxide Sensor

B.31.1 Introduction

This resource describes whether carbon dioxide has been sensed or not. The value is a boolean. A value of 'true' means that carbon dioxide has been detected. A value of 'false' means that carbon dioxide has not been detected.

B.31.2 Example URI

/CarbonDioxideResURI

B.31.3 Resource Type

The resource type (rt) is defined as: ['oic.r.sensor.carbondioxide'].

B.31.4 Swagger2.0 Definition

```json
{
    "swagger": "2.0",
    "info": {
        "title": "Carbon Dioxide Sensor",
        "version": "v1.1.0-20160519",
        "license": {
            "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
            "license": "Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:\n1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.\n2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.\nTHIS SOFTWARE IS PROVIDED BY THE Open Connectivity Foundation, INC. \"AS IS\" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR WARRANTIES OF NON-INFRINGEMENT, ARE DISCLAIMED.\nIN NO EVENT SHALL The Open Connectivity Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS FOR OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE."
        }
    }
}```
"/CarbonDioxideResURI" : {
  "get": {
    "description": "This resource describes whether carbon dioxide has been sensed or not. The value is a boolean. A value of 'true' means that carbon dioxide has been detected. A value of 'false' means that carbon dioxide has not been detected."
  },

  "parameters": {
    "$ref": "#/parameters/interface"
  },

  "responses": {
    "200": {
      "description": "",
      "x-example": {
        "rt": ["oic.r.sensor.carbondioxide"],
        "id": "unique_example_id",
        "value": true
      }
    },
    "schema": { "$ref": "#/definitions/CO2" }
  }
}
},

"parameters": {
  "interface": {
    "in": "query",
    "name": "if",
    "type": "string",
    "enum": ["oic.if.s", "oic.if.baseline"]
  }
},

"definitions": {
  "CO2": {
    "properties": {
      "rt": {
        "description": "Resource Type",
        "items": {
          "maxLength": 64,
          "type": "string"
        },
        "minItems": 1,
        "readOnly": true,
        "type": "array"
      },
      "precision": {
        "description": "Accuracy granularity of the exposed value",
        "readOnly": true,
        "type": "number"
      },
      "value": {
        "description": "true = sensed, false = not sensed.",
        "readOnly": true,
        "type": "boolean"
      }
    }
  }
}
"n": {
   "description": "Friendly name of the resource",
   "maxLength": 64,
   "readOnly": true,
   "type": "string"
},

"range": {
   "description": "The valid range for the value Property",
   "items": [  
      "anyOf": [  
         {  
            "type": "number”
         },
         {  
            "type": "integer"
         }
      ]
   },
   "maxItems": 2,
   "minItems": 2,
   "readOnly": true,
   "type": "array"
},

"step": {
   "anyOf": [  
      {  
         "type": "integer"
      },
      {  
         "type": "number"
      }
   ],
   "description": "Step value across the defined range",
   "readOnly": true
},

"id": {
   "description": "Instance ID of this specific resource",
   "maxLength": 64,
   "readOnly": true,
   "type": "string"
},

"if": {
   "description": "The interface set supported by this resource",
   "items": [  
      "enum": [  
         "oic.if.baseline",
         "oic.if.ll",
         "oic.if.b",
         "oic.if.lb",
         "oic.if.rw",
         "oic.if.z",
         "oic.if.a",
         "oic.if.s"
      ],
      "type": "string"
   ],
   "minItems": 1,
   "readOnly": true,
   "type": "array"
}

B.31.5  Property Definition

Table 299 The properties definitions of the resource

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>value</td>
<td>boolean</td>
<td>Yes</td>
<td>Read Only</td>
<td>true = sensed, false = not sensed.</td>
</tr>
<tr>
<td>rt</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>Resource Type</td>
</tr>
<tr>
<td>range</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>The valid range for the value Property</td>
</tr>
<tr>
<td>id</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Instance ID of this specific resource</td>
</tr>
<tr>
<td>precision</td>
<td>number</td>
<td>No</td>
<td>Read Only</td>
<td>Accuracy granularity of the exposed value</td>
</tr>
<tr>
<td>step</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>Step value across the defined range</td>
</tr>
<tr>
<td>n</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Friendly name of the resource</td>
</tr>
<tr>
<td>if</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>The interface set supported by this resource</td>
</tr>
</tbody>
</table>

B.31.6  CRUDN behaviour

Table 300 The CRUDN operations of the resource

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/CarbonDioxideResURI</td>
<td>get</td>
<td></td>
<td></td>
<td></td>
<td>observe</td>
</tr>
</tbody>
</table>

B.32  Carbon Monoxide Sensor

B.32.1  Introduction

This resource describes whether carbon monoxide has been sensed or not. The value is a boolean. A value of 'true' means that carbon monoxide has been detected. A value of 'false' means that carbon monoxide has not been detected.
B.32.2  Example URI

/CarbonMonoxideResURI

B.32.3  Resource Type

The resource type (rt) is defined as: ['oic.r.sensor.carbonmonoxide'].

B.32.4  Swagger2.0 Definition

```json
{
    "swagger": "2.0",
    "info": {
        "title": "Carbon Monoxide Sensor",
        "version": "v1.1.0-20160519",
        "license": {
            "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
            "x-description": "Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:\n            1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.\n            2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.\n            THIS SOFTWARE IS PROVIDED BY THE Open Connectivity Foundation, INC. "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR WARRANTIES OF NON-INFRINGEMENT, ARE DISCLAIMED.\n            IN NO EVENT SHALL THE Open Connectivity Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE."
        }
    },
    "schemes": ["http"],
    "consumes": ["application/json"],
    "produces": ["application/json"],
    "paths": {
        "/CarbonMonoxideResURI" : {
            "get": {
                "description": "This resource describes whether carbon monoxide has been sensed or not.\n                The value is a boolean.\n                A value of 'true' means that carbon monoxide has been detected.\n                A value of 'false' means that carbon monoxide has not been detected.\n                ",
                "parameters": {
                    "$ref": "#/parameters/interface"
                },
                "responses": {
                    "200": {
                        "description": "",
                        "x-example": {
                            "rt": ["oic.r.sensor.carbonmonoxide"],
                            "id": "unique_example_id",
                            "value": true
                        }
                    }
                },
                "schema": { "$ref": "#/definitions/CO" }
            }
        }
    },
    "parameters": {
        "interface" : {
            "in": "query",
            "name": "if",
            "type": "string",
            "enum": ["oic.if.s", "oic.if.baseline"]
        }
    },
    "definitions": {
        "CO" : {
```
"properties": {
  "rt": {
    "description": "Resource Type",
    "items": {
      "maxLength": 64,
      "type": "string"
    },
    "minItems": 1,
    "readOnly": true,
    "type": "array"
  },
  "precision": {
    "description": "Accuracy granularity of the exposed value",
    "readOnly": true,
    "type": "number"
  },
  "value": {
    "description": "true = sensed, false = not sensed.",
    "readOnly": true,
    "type": "boolean"
  },
  "n": {
    "description": "Friendly name of the resource",
    "maxLength": 64,
    "readOnly": true,
    "type": "string"
  },
  "range": {
    "description": "The valid range for the value Property",
    "items": [{
      "anyOf": [
        { "type": "number" },
        { "type": "integer" }
      ],
      "maxItems": 2,
      "minItems": 2,
      "readOnly": true,
      "type": "array"
    },
    "step": {
      "anyOf": [
        { "type": "integer" },
        { "type": "number" }
      ],
      "description": "Step value across the defined range",
      "readOnly": true
    },
    "id": {
      "description": "Instance ID of this specific resource",
      "maxLength": 64,
      "readOnly": true,
      "type": "string"}}}
"maxLength": 64,
"readOnly": true,
"type": "string"
],
"if" :
"description": "The interface set supported by this resource",
"items": [
  "enum": [
    "oic.if.baseline",
    "oic.if.ll",
    "oic.if.bl",
    "oic.if.lb",
    "oic.if.rw",
    "oic.if.r",
    "oic.if.s",
    "oic.if.s"
  ],
  "type": "string"
],
"minItems": 1,
"readOnly": true,
"type": "array"
}
}
"type" : "object"
"required": ["value"]
}
B.32.5 Property Definition

Table 301 The properties definitions of the resource

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>rt</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>Resource Type</td>
</tr>
<tr>
<td>range</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>The valid range for the value Property</td>
</tr>
<tr>
<td>if</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>The interface set supported by this resource</td>
</tr>
<tr>
<td>n</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Friendly name of the resource</td>
</tr>
<tr>
<td>id</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Instance ID of this specific resource</td>
</tr>
<tr>
<td>value</td>
<td>boolean</td>
<td>Yes</td>
<td>Read Only</td>
<td>true = sensed, false = not sensed.</td>
</tr>
<tr>
<td>step</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>Step value across the defined range</td>
</tr>
</tbody>
</table>
B.32.6 CRUDN behaviour

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/CarbonMonoxideResURI</td>
<td></td>
<td>get</td>
<td></td>
<td></td>
<td>observe</td>
</tr>
</tbody>
</table>

Table 302 The CRUDN operations of the resource

B.33 Clock

B.33.1 Introduction

This resource describes the properties associated with clock and time.

Clock is a time information.

DateTime is using ISO 8601 datetime format (e.g: "2007-04-05T14:30Z") (Time+Date+Timezone)

Countdown is the desired total seconds for countdown.

B.33.2 Example URI

/ClockResURI

B.33.3 Resource Type

The resource type (rt) is defined as: ['oic.r.clock'].

B.33.4 Swagger2.0 Definition

```json
{
    "swagger": "2.0",
    "info": {
        "title": "Clock",
        "version": "v1.1.0-20160519",
        "license": {
            "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
            "x-description": "Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:
1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.
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        }
    },
    "schemes": ["http"],
    "consumes": ["application/json"],
    "produces": ["application/json"],
    "paths": {
        "/ClockResURI" : {
            "get": {
                "description": "This resource describes the properties associated with clock and time.\nDateTime is using ISO 8601 datetime format (e.g: "2007-04-05T14:30Z") (Time+Date+Timezone)\nCountdown is the desired total seconds for countdown.\nRetrieves the current datetime data.\n";
                "parameters": [
                    {"$ref": "/parameters/interface"}
                ],
            }
        }
    }
}
"responses": {
  "200": {
    "description": "", 
    "x-example": 
    } 
  
  "description": "", 
  "x-example": 
  } 
}

"post": {
  "description": "", 
  "parameters": [
  ] 
  
  "description": "", 
  "parameters": [ 
  ] 
}

"definitions": {
  "Clock": {
  } 
}
"properties": {
  "rt": {
    "description": "Resource Type",
    "items": {
      "maxLength": 64,
      "type": "string"
    },
    "minItems": 1,
    "readOnly": true,
    "type": "array"
  },
  "precision": {
    "description": "Accuracy granularity of the exposed value",
    "readOnly": true,
    "type": "number"
  },
  "value": {
    "anyOf": [
    {
      "type": "array"
    },
    {
      "type": "string"
    },
    {
      "type": "boolean"
    },
    {
      "type": "integer"
    },
    {
      "type": "number"
    },
    {
      "type": "object"
    }]
  },
  "n": {
    "description": "Friendly name of the resource",
    "maxLength": 64,
    "readOnly": true,
    "type": "string"
  },
  "countdown": {
    "description": "Desired total seconds for countdown",
    "minimum": 0,
    "type": "number"
  },
  "range": {
    "description": "The valid range for the value Property",
    "items": {
      "anyOf": [
    {
      "type": "number"
    },
    {
      "type": "integer"
    }]
    }}}}
B.33.5 Property Definition

Table 303 The properties definitions of the resource
<table>
<thead>
<tr>
<th>datetime</th>
<th>string</th>
<th>Yes</th>
<th>Read Write</th>
<th>Using ISO 8601 datetime format (e.g: 2007-04-05T14:30Z, 2007-04-05T14:30+09:00)</th>
</tr>
</thead>
<tbody>
<tr>
<td>countdown</td>
<td>number</td>
<td>No</td>
<td>Read Write</td>
<td>Desired total seconds for countdown</td>
</tr>
<tr>
<td>if</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>The interface set supported by this resource</td>
</tr>
<tr>
<td>n</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Friendly name of the resource</td>
</tr>
<tr>
<td>precision</td>
<td>number</td>
<td>No</td>
<td>Read Only</td>
<td>Accuracy granularity of the exposed value</td>
</tr>
<tr>
<td>id</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Instance ID of this specific resource</td>
</tr>
<tr>
<td>value</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>Read Write</td>
<td>The value sensed or actuated by this Resource</td>
</tr>
<tr>
<td>step</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>Step value across the defined range</td>
</tr>
<tr>
<td>range</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>Resource Type</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>The valid range for the value Property</td>
</tr>
</tbody>
</table>

### B.33.6 CRUDN behaviour

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/ClockResURI</td>
<td>get</td>
<td>post</td>
<td></td>
<td></td>
<td>observe</td>
</tr>
</tbody>
</table>

### B.34 Auto White Balance

#### B.34.1 Introduction

This resource describes an auto balance on/off feature. The value is a boolean. An AutoWhiteBalance value of 'true' means that the switch is on.
An AutoWhiteBalance value of ‘false’ means that the switch is off.

B.34.2 Example URI

/AutoWhiteBalanceResURI

B.34.3 Resource Type

The resource type (rt) is defined as: ['oic.r.colour.autowhitebalance'].

B.34.4 Swagger2.0 Definition

```json
{
    "swagger": "2.0",
    "info": {
        "title": "Auto White Balance",
        "version": "v1.1.0-20160519",
        "license": {
            "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
            "x-description": "Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:
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        }
    },
    "schemes": ["http"],
    "consumes": ["application/json"],
    "produces": ["application/json"],
    "paths": {
        "/AutoWhiteBalanceResURI": {

            "get": {
                "description": "This resource describes an auto balance on/off feature. The value is a boolean. An AutoWhiteBalance value of 'true' means that the switch is on. An AutoWhiteBalance value of 'false' means that the switch is off."
            },
            "responses": {
                "200": {
                    "description": "",
                    "x-example": {
                        "rt": ["oic.r.colour.autowhitebalance"],
                        "id": "unique_example_id",
                        "autoWhiteBalance": false
                    }
                }
            },
            "post": {
                "description": "",
                "parameters": [
                    {"$ref": "#/parameters/interface"},
                    {
                        "name": "body",
                        "in": "body",
                        "required": true,
                        "schema": { "$ref": "#/definitions/AutoWhiteBalance" }
                    }
                ]
            }
        }
    }
}
```
"x-example":
{
  "id": "unique_example_id",
  "autoWhiteBalance": true
}

"responses": {
  "200": {
    "description": "",
    "x-example":
    {
      "id": "unique_example_id",
      "autoWhiteBalance": true
    }
  }
},

"parameters": {
  "interface": {
    "in": "query",
    "name": "if",
    "type": "string",
    "enum": ["oic.if.a", "oic.if.baseline"]
  }
},

"definitions": {
  "AutoWhiteBalance": {
    "properties": {
      "rt": {
        "description": "Resource Type",
        "items": {
          "maxLength": 64,
          "type": "string"
        },
        "minItems": 1,
        "readOnly": true,
        "type": "array"
      },
      "autoWhiteBalance": {
        "description": "Status of the Auto White balance",
        "type": "boolean"
      },
      "precision": {
        "description": "Accuracy granularity of the exposed value",
        "readOnly": true,
        "type": "number"
      },
      "value": {
        "anyOf": {
          "type": "array"
        },
      }
    }
  }
}
"type": "integer"
},
{
    "type": "number"
},
{
    "type": "object"
},
"description": "The value sensed or actuated by this Resource"
},
"n": {
    "description": "Friendly name of the resource",
    "maxLength": 64,
    "readOnly": true,
    "type": "string"
},
"range": {
    "description": "The valid range for the value Property",
    "items": {
        "anyOf": [
            {
                "type": "number"
            },
            {
                "type": "integer"
            }
        ]
    },
    "maxItems": 2,
    "minItems": 2,
    "readOnly": true,
    "type": "array"
},
"step": {
    "anyOf": [
        {
            "type": "integer"
        },
        {
            "type": "number"
        }
    ],
    "description": "Step value across the defined range",
    "readOnly": true
},
"id": {
    "description": "Instance ID of this specific resource",
    "maxLength": 64,
    "readOnly": true,
    "type": "string"
},
"if": {
    "description": "The interface set supported by this resource",
    "items": {
        "enum": [
            "oic.if.baseline",
            "oic.if.ll",
            "oic.if.b",
            "oic.if.lb",
            "oic.if.rw"
        ]
    }
}
Table 305 The properties definitions of the resource

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>value</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>Read Write</td>
<td>The value sensed or actuated by this Resource</td>
</tr>
<tr>
<td>range</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>The valid range for the value Property</td>
</tr>
<tr>
<td>autoWhiteBalance</td>
<td>boolean</td>
<td>Yes</td>
<td>Read Write</td>
<td>Status of the Auto White balance</td>
</tr>
<tr>
<td>n</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Friendly name of the resource</td>
</tr>
<tr>
<td>rt</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>Resource Type</td>
</tr>
<tr>
<td>id</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Instance ID of this specific resource</td>
</tr>
<tr>
<td>if</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>The interface set supported by this resource</td>
</tr>
<tr>
<td>step</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>Step value across the defined range</td>
</tr>
<tr>
<td>precision</td>
<td>number</td>
<td>No</td>
<td>Read Only</td>
<td>Accuracy granularity of the exposed value</td>
</tr>
</tbody>
</table>
Table 306 The CRUDN operations of the resource

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/AutoWhiteBalanceResURI</td>
<td>get</td>
<td>post</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

B.35 Colour Saturation

B.35.1 Introduction
This resource describes a Colour saturation value.
The value is an integer.
A coloursaturation has a range of [0,100].
A coloursaturation value of 0 means producing black and white images.
A coloursaturation value of 50 means producing device specific normal colour images.
A coloursaturation value of 100 means producing device very full colour images.

B.35.2 Example URI
/ColourSaturationResURI

B.35.3 Resource Type
The resource type (rt) is defined as: ['oic.r.colour.saturation'].

B.35.4 Swagger2.0 Definition

```json
{
  "swagger": "2.0",
  "info": {
    "title": "Colour Saturation",
    "version": "v1.1.0-20160519",
    "license": {
      "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved."
    }
  },
  "schemes": ["http"],
  "consumes": ["application/json"],
  "produces": ["application/json"],
  "paths": {
    "/ColourSaturationResURI": {
      "get": {
        "description": "This resource describes a Colour saturation value. The value is an integer. A coloursaturation has a range of [0,100]. A coloursaturation value of 0 means producing black and white images. A coloursaturation value of 50 means producing device specific normal colour images. A coloursaturation value of 100 means producing device very full colour images."
      }
    }
  }
}
```
"x-example": {
  "rt": ["oic.r.colour.saturation"],
  "id": "unique_example_id",
  "colourSaturation": 50
}

"schema": { "$ref": "#/definitions/Saturation" }

"post": {
  "description": "",
  "parameters": [
    { "$ref": "#/parameters/interface"},
    {
      "name": "body",
      "in": "body",
      "required": true,
      "schema": { "$ref": "#/definitions/Saturation" },
      "x-example": {
        "id": "unique_example_id",
        "colourSaturation": 60
      }
    }
  ],
  "responses": {
    "200": {
      "description": "",
      "x-example": {
        "id": "unique_example_id",
        "colourSaturation": 60
      }
    }
  }
}

"parameters": {
  "interface": {
    "in": "query",
    "name": "if",
    "type": "string",
    "enum": ["oic.if.a", "oic.if.baseline"]
  }
}

"definitions": {
  "Saturation": {
    "properties": {
      "rt": {
        "description": "Resource Type",
        "items": {
          "maxLength": 64,
          "type": "string"
        },
        "minItems": 1,
        "readOnly": true,
        "type": "array"
      },
      "precision": {
        "description": "Accuracy granularity of the exposed value",
        "readOnly": true,
        "type": "number"
      }
    }
  }
}
"value": {
  "anyOf": [
    {
      "type": "array"
    },
    {
      "type": "string"
    },
    {
      "type": "boolean"
    },
    {
      "type": "integer"
    },
    {
      "type": "number"
    },
    {
      "type": "object"
    }
  ],
  "description": "The value sensed or actuated by this Resource"
},
"n": {
  "description": "Friendly name of the resource",
  "maxLength": 64,
  "readOnly": true,
  "type": "string"
},
"range": {
  "description": "The valid range for the value Property",
  "items": {
    "anyOf": [
      {
        "type": "number"
      },
      {
        "type": "integer"
      }
    ],
    "maxItems": 2,
    "minItems": 2,
    "readOnly": true,
    "type": "array"
  },
  "step": {
    "anyOf": [
      {
        "type": "integer"
      },
      {
        "type": "number"
      }
    ],
    "description": "Step value across the defined range",
    "readOnly": true
  },
  "colourSaturation": {
    "description": "The colour saturation value",
    "maximum": 100,
    "maximum": 100,
    "readOnly": true,
    "type": "integer"
  }
}
"id": {
  "description": "Instance ID of this specific resource",
  "maxLength": 64,
  "readOnly": true,
  "type": "string"
},
"if": {
  "description": "The interface set supported by this resource",
  "items": {
    "enum": [
      "oic.if.baseline",
      "oic.if.ll",
      "oic.if.b",
      "oic.if.lb",
      "oic.if.rw",
      "oic.if.r",
      "oic.if.a",
      "oic.if.s"
    ],
    "type": "string"
  },
  "minItems": 1,
  "readOnly": true,
  "type": "array"
}

B.35.5 Property Definition

Table 307 The properties definitions of the resource

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>rt</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>Resource Type</td>
</tr>
<tr>
<td>precision</td>
<td>number</td>
<td>No</td>
<td>Read Only</td>
<td>Accuracy granularity of the exposed value</td>
</tr>
<tr>
<td>value</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>Read Write</td>
<td>The value sensed or actuated by this Resource</td>
</tr>
<tr>
<td>id</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Instance ID of this specific resource</td>
</tr>
<tr>
<td>if</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>The interface set supported by this resource</td>
</tr>
<tr>
<td>Property</td>
<td>Type</td>
<td>Default</td>
<td>Access</td>
<td>Description</td>
</tr>
<tr>
<td>----------------------</td>
<td>---------------</td>
<td>---------</td>
<td>--------</td>
<td>-----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>range</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>The valid range for the value Property</td>
</tr>
<tr>
<td>n</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Friendly name of the resource</td>
</tr>
<tr>
<td>step</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>Step value across the defined range</td>
</tr>
<tr>
<td>colourSaturation</td>
<td>integer</td>
<td>Yes</td>
<td>Read Write</td>
<td>The colour saturation value</td>
</tr>
</tbody>
</table>

### B.36 Colour Chroma

#### B.36.1 Introduction

This resource describes the colour using chroma conventions. Properties are hue, saturation, csc, and ct.

- hue is the hue angle, it is an integer value as defined by the CIECAM02 model definition (see reference [CIE CIE159:2004]).
- saturation is an integer value as defined by the CIECAM02 model definition (see reference [CIE CIE159:2004]).
- maximum saturation is the upper bound on the saturation supported by the Device. If not present the maximum value for saturation is 32767.
- csc is the colour space coordinates in CIE colour space. The first item in the array is the X coordinate. The second item in the array is the Y coordinate.
- ct is the Mired colour temperature.

#### B.36.2 Example URI

/example/ColourChromaResURI

#### B.36.3 Resource Type

The resource type (rt) is defined as: ['oic.r.colour.chroma'].

#### B.36.4 Swagger2.0 Definition

```json
{
  "swagger": "2.0",
  "info": {
    "title": "Colour Chroma",
    "version": "v1.1.0-20160519",
    "license": {
      "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
      "x-description": "Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.

2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.

THIS SOFTWARE IS PROVIDED BY THE Open Connectivity Foundation, INC. \"AS IS\" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR"
  }
}
```
"schemes": ["http"],
"consumes": ["application/json"],
"produces": ["application/json"],
"paths": {
  "/example/ColourChromaResURI": {
    "get": {
      "description": "This resource describes the colour using chroma conventions. Properties are hue, saturation, csc, and ct.\nhue is the hue angle, it is an integer value as defined by the CIECAM02 model definition (see reference [CIE CIE159:2004]).\nsaturation is an integer value as defined by the CIECAM02 model definition (see reference [CIE CIE159:2004]).\nmaximumsaturation is the upper bound on the saturation supported by the Device.\nIf not present the maximum value for saturation is 32767.\ncsc is the colour space coordinates in CIE colour space.\nThe first item in the array is the X coordinate.\nThe second item in the array is the Y coordinate.\nct is the Mired colour temperature.\nProvides the colour using chroma conventions.\n",
      "parameters": [
        {
          "$ref": "#/parameters/interface"
        }
      ],
      "responses": {
        "200": {
          "description": "",
          "x-example": {
            "id": "unique_example_id",
            "hue": 256.0,
            "saturation": 212,
            "maximumsaturation": 1000,
            "csc": [0.41, 0.51],
            "ct": 457
          }
        }
      }
    },
    "post": {
      "description": "Sets current colour chroma values",
      "parameters": [
        {
          "$ref": "#/parameters/interface",
          "body": {
            "name": "body",
            "in": "body",
            "required": true,
            "schema": { "$ref": "#/definitions/ColourChroma" },
            "x-example": {
              "id": "unique_example_id",
              "hue": 300.0,
              "saturation": 212,
              "csc": [0.41, 0.51],
              "ct": 457
            }
          }
        }
      ],
      "responses": {
        "200": {
          "description": "",
          "x-example": {
            "id": "unique_example_id",
            "hue": 300.0,
            "saturation": 212,
            "csc": [0.41, 0.51],
            "ct": 457
          }
        }
      }
    }
  }
}
"csc": [0.41, 0.51],
"ct": 467
}
"schema": { "$ref": "#/definitions/ColourChroma" }
"parameters": {
"interface": {
"in": "query",
"name": "if",
"type": "string",
"enum": ["oic.if.a", "oic.if.baseline"]
}
"definitions": {
"ColourChroma": {
"properties": {
"rt": {
"description": "Resource Type",
"items": {
"maxLength": 64,
"type": "string"
},
"minItems": 1,
"readOnly": true,
"type": "array"
},
"hue": {
"description": "Hue angle as defined by the CIECAM02 model definition",
"maximum": 360.0,
"minimum": 0.0,
"type": "number"
},
"saturation": {
"description": "Saturation as defined by the CIECAM02 model definition",
"maximum": 32767,
"minimum": 0,
"type": "integer"
},
"maximumsaturation": {
"description": "Maximum supported value of Saturation for this Device",
"maximum": 32767,
"minimum": 0,
"readOnly": true,
"type": "integer"
},
"precision": {
"description": "Accuracy granularity of the exposed value",
"readOnly": true,
"type": "number"
},
"csc": {
"description": "X and Y coordinates of the colour in CIE colour space",
"items": {
"maximum": 1,
"minimum": 0,
"type": "number",
  },
  "maxItems": 2,
  "minItems": 2,
  "type": "array"
},
"n": {
  "description": "Friendly name of the resource",
  "maxLength": 64,
  "readOnly": true,
  "type": "string"
},
"range": {
  "description": "The valid range for the value Property",
  "items": {
    "anyOf": [
    {
      "type": "number"
    },
    {
      "type": "integer"
    }
    ]
  },
  "maxItems": 2,
  "minItems": 2,
  "readOnly": true,
  "type": "array"
},
"value": {
  "anyOf": [
  {
    "type": "array"
  },
  {
    "type": "string"
  },
  {
    "type": "boolean"
  },
  {
    "type": "integer"
  },
  {
    "type": "number"
  },
  {
    "type": "object"
  }
  ],
  "description": "The value sensed or actuated by this Resource"
},
"step": {
  "anyOf": [
  {
    "type": "integer"
  },
  {
    "type": "number"
  }
  ],
  "description": "Step value across the defined range",
  "readOnly": true
}
B.36.5 Property Definition

Table 309 The properties definitions of the resource

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>n</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Friendly name of the resource</td>
</tr>
<tr>
<td>precision</td>
<td>number</td>
<td>No</td>
<td>Read Only</td>
<td>Accuracy granularity of the exposed value</td>
</tr>
<tr>
<td>value</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>Read Write</td>
<td>The value sensed or actuated by this Resource</td>
</tr>
<tr>
<td>maximumsaturation</td>
<td>integer</td>
<td>No</td>
<td>Read Only</td>
<td></td>
</tr>
</tbody>
</table>


<table>
<thead>
<tr>
<th>Property</th>
<th>Type</th>
<th>Multiple types:</th>
<th>Access</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>if</td>
<td>array:</td>
<td>see schema</td>
<td>No</td>
<td>Read Only</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Maximum supported value of Saturation for this Device</td>
</tr>
<tr>
<td>step</td>
<td>multiple types:</td>
<td>see schema</td>
<td>No</td>
<td>Read Only</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>The interface set supported by this resource</td>
</tr>
<tr>
<td>csc</td>
<td>array:</td>
<td>see schema</td>
<td>Yes</td>
<td>Read Write</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X and Y coordinates of the colour in CIE colour space</td>
</tr>
<tr>
<td>ct</td>
<td>integer</td>
<td></td>
<td>No</td>
<td>Read Write</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Mired colour temperature</td>
</tr>
<tr>
<td>id</td>
<td>string</td>
<td></td>
<td>No</td>
<td>Read Only</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Instance ID of this specific resource</td>
</tr>
<tr>
<td>hue</td>
<td>number</td>
<td></td>
<td>Yes</td>
<td>Read Write</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Hue angle as defined by the CIECAM02 model definition</td>
</tr>
<tr>
<td>rt</td>
<td>array:</td>
<td>see schema</td>
<td>No</td>
<td>Read Only</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Resource Type</td>
</tr>
<tr>
<td>range</td>
<td>array:</td>
<td>see schema</td>
<td>No</td>
<td>Read Only</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>The valid range for the value Property</td>
</tr>
<tr>
<td>saturation</td>
<td>integer</td>
<td></td>
<td>Yes</td>
<td>Read Write</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Saturation as defined by the CIECAM02 model definition</td>
</tr>
</tbody>
</table>

### B.36.6 CRUDN behaviour

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/example/ColourChromaResURI</td>
<td>get</td>
<td>post</td>
<td></td>
<td></td>
<td>observe</td>
</tr>
</tbody>
</table>

### B.37 Colour Space Coordinates

#### B.37.1 Introduction

This resource describes the colour using colour space co-ordinates. csc is the colour space coordinates in CIE colour space. The first item in the array is the X coordinate. The second item in the array is the Y coordinate. If precision (from oic.r.baseresource) is provided it applies to both the X and Y coordinates.
B.37.2 Example URI
/example/ColourSpaceCoordinatesResURI

B.37.3 Resource Type
The resource type (rt) is defined as: ['oic.r.colour.csc'].

B.37.4 Swagger2.0 Definition

```
{
  "swagger": "2.0",
  "info": {
    "title": "Colour Space Coordinates",
    "version": "OCFv1.1.0-2017",
    "license": {
      "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
      "x-description": "Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions are met:

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HOWEVER CAUSED AND
ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR
OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY
OF SUCH DAMAGE.
"
  },
  "schemes": ["http"],
  "consumes": ["application/json"],
  "produces": ["application/json"],
  "paths": {
    "/example/ColourSpaceCoordinatesResURI": {
      "get": {
        "description": "This resource describes the colour using colour space co-ordinates.\nThe colour space coordinates in CIE colour space. The first item in the array is the X
coordinate.\nThe second item in the array is the Y coordinate.\nIf precision (from
oic.r.baseresource) is provided it applies to both the X and Y coordinates.\nProvides the colour
using colour space coordinates.\n",
        "parameters": [
          { "$ref": "#/parameters/interface-all"}
        ],
        "responses": {
          "200": {
            "description": ":",
            "x-example": {
              "rt": ["oic.r.colour.csc"],
              "id": "unique_example_id",
              "csc": [0.41,0.51]
            }
          }
        }
      },
      "post": {
        "description": "Sets current colour space coordinates\n",
        "parameters": [
          { "$ref": "#/parameters/interface-a"},
        ],
        "name": "body",
        "in": "body",
        "required": true,
        "schema": { "$ref": "#/definitions/ColourCSC" },
        "x-example":
      }
    }
  }
}
```
{  "id": "unique_example_id",
  "csc": [0.40,0.70]
}

"responses": {
  "200": {
    "description": ",
    "x-example": {
      "id": "unique_example_id",
      "csc": [0.40,0.70]
    }
  }
},
"schema": { "$ref": "#/definitions/ColourCSC" }

"parameters": {
  "interface-a": {
    "in": "query",
    "name": "if",
    "type": "string",
    "enum": ["oic.if.a"]
  },
  "interface-all": {
    "in": "query",
    "name": "if",
    "type": "string",
    "enum": ["oic.if.a", "oic.if.baseline"]
  }
},
"definitions": {
  "ColourCSC": {
    "properties": {
      "rt": {
        "description": "Resource Type",
        "items": {
          "maxLength": 64,
          "type": "string"
        },
        "minItems": 1,
        "readOnly": true,
        "type": "array"
      },
      "precision": {
        "description": "Accuracy granularity of the exposed value",
        "readOnly": true,
        "type": "number"
      },
      "csc": {
        "description": "X and Y coordinates of the colour in CIE colour space",
        "items": {
          "maximum": 1,
          "minimum": 0,
          "type": "number"
        },
        "maxItems": 2,
        "minItems": 2,
        "type": "array"
      },
      "n":
    }
  }
}
{  
  "description": "Friendly name of the resource",
  "maxLength": 64,
  "readOnly": true,
  "type": "string"
},

"range": {
  "description": "The valid range for the value Property",
  "items": {
    "anyOf": [
      {
        "type": "number"
      },
      {
        "type": "integer"
      }
    ],
    "maxItems": 2,
    "minItems": 2,
    "readOnly": true,
    "type": "array"
  },

  "value": {
    "anyOf": [
      {
        "type": "array"
      },
      {
        "type": "string"
      },
      {
        "type": "boolean"
      },
      {
        "type": "integer"
      },
      {
        "type": "number"
      },
      {
        "type": "object"
      }
    ],
    "description": "The value sensed or actuated by this Resource"
  },

  "step": {
    "anyOf": [
      {
        "type": "integer"
      },
      {
        "type": "number"
      }
    ],
    "description": "Step value across the defined range",
    "readOnly": true
  },

  "id": {
    "description": "Instance ID of this specific resource",
    "maxLength": 64,
    "readOnly": true,
    "type": "string"
"if": {
  "description": "The interface set supported by this resource",
  "items": {
    "enum": [
      "oic.if.baseline",
      "oic.if.ll",
      "oic.if.b",
      "oic.if.lb",
      "oic.if.rb",
      "oic.if.a",
      "oic.if.s"
    ],
    "type": "string"
  },
  "minItems": 1,
  "readOnly": true,
  "type": "array"
}
}
}

### B.37.5 Property Definition

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>value</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>Read Write</td>
<td>The value sensed or actuated by this Resource</td>
</tr>
<tr>
<td>rt</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>Resource Type</td>
</tr>
<tr>
<td>if</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>The interface set supported by this resource</td>
</tr>
<tr>
<td>id</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Instance ID of this specific resource</td>
</tr>
<tr>
<td>precision</td>
<td>number</td>
<td>No</td>
<td>Read Only</td>
<td>Accuracy granularity of the exposed value</td>
</tr>
<tr>
<td>n</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Friendly name of the resource</td>
</tr>
<tr>
<td>csc</td>
<td>array: see schema</td>
<td>Yes</td>
<td>Read Write</td>
<td>X and Y coordinates of the colour in CIE colour space</td>
</tr>
</tbody>
</table>
**range** | array: see [schema](#) | No | Read Only | The valid range for the value Property
---|---|---|---|---
**step** | multiple types: see [schema](#) | No | Read Only | Step value across the defined range

---

### B.37.6 CRUDN behaviour

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>/example/ColourSpaceCoordinatesResURI</code></td>
<td>get</td>
<td></td>
<td>post</td>
<td></td>
<td>observe</td>
</tr>
</tbody>
</table>

---

### B.38 Colour Temperature

#### B.38.1 Introduction

This resource describes the colour using colour temperature conventions. ct is the Mired colour temperature. The equivalent value in Kelvin is obtained by 

\[
\text{Colour Temp(K)} = \frac{1,000,000}{\text{Colour Temp(Mired)}}
\]

#### B.38.2 Example URI

`/example/ColourTemperatureResURI`

#### B.38.3 Resource Type

The resource type (rt) is defined as: `[oic.r.colour.colourtemperature]`.

#### B.38.4 Swagger2.0 Definition

```json
{
    "swagger": "2.0",
    "info": {
        "title": "Colour Temperature",
        "version": "OCFv1.0-2017",
        "license": {
            "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
            "x-description": "Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

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"
        }
    },
    "schemes": ["http"],
    "consumes": ["application/json"],
    "produces": ["application/json"],
    "paths": {
        "/example/ColourTemperatureResURI" : {
            "get": {
                "description": "This resource describes the colour using colour temperature conventions. ct is the Mired colour temperature. The equivalent value in Kelvin is obtained by Colour Temp(K) = 1,000,000/Colour Temp(Mired) Provides the colour using colour temperature
            
```
conventions.

"parameters": [
  {"$ref": "#/parameters/interface-all"},
  {"$ref": "#/parameters/interface-a"},
],
"responses": {
  "200": {
    "description": "",
    "x-example": {
      "rt": ["oic.r.colour.colourtemperature"],
      "id": "unique_example_id",
      "ct": 457
    }
  },
  "post": {
  "description": "Sets current colour temperature value",
  "parameters": [
    {"$ref": "#/parameters/interface-a"},
    {"name": "body",
     "in": "body",
     "required": true,
     "schema": { "$ref": "#/definitions/ColourTemp" },
     "x-example": {
       "id": "unique_example_id",
       "ct": 457
     }
  ]
  },
  "responses": {
  "200": {
    "description": "",
    "x-example": {
      "id": "unique_example_id",
      "ct": 467
    }
  },
  "post": {
  "description": "Sets current colour temperature value",
  "parameters": [
    {"$ref": "#/parameters/interface-a"},
    {"$ref": "#/parameters/interface-all"},
  ],
  "responses": {
  "200": {
    "description": "",
    "x-example": {
      "id": "unique_example_id",
      "ct": 467
    }
  },
  "definitions": {
  "ColourTemp": {
  "properties": {
    "rt": {
      "description": "Resource Type",
      "items": {
        "maxLength": 64,
      }
    }
  },
"type": "string",
},
"minItems": 1,
"readOnly": true,
"type": "array"
],
"precision": {
"description": "Accuracy granularity of the exposed value",
"readOnly": true,
"type": "number"
},
"value": {
"anyOf": [
{
"type": "array"
},
{
"type": "string"
},
{
"type": "boolean"
},
{
"type": "integer"
},
{
"type": "number"
},
{
"type": "object"
}
],
"description": "The value sensed or actuated by this Resource"
},
"n": {
"description": "Friendly name of the resource",
"maxLength": 64,
"readOnly": true,
"type": "string"
},
"range": {
"description": "The valid range for the value Property",
"items": {
"anyOf": [
{
"type": "number"
},
{
"type": "integer"
}
],
"maxItems": 2,
"minItems": 2,
"readOnly": true,
"type": "array"
},
"step": {
"anyOf": [
{
"type": "integer"
}
]
B.38.5 Property Definition

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>step</td>
<td>multiple types:</td>
<td>No</td>
<td>Read Only</td>
<td>Step value across the defined range</td>
</tr>
<tr>
<td></td>
<td>see schema</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>precision</td>
<td>number</td>
<td>No</td>
<td>Read Only</td>
<td>Accuracy granularity of the exposed value</td>
</tr>
<tr>
<td>n</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td></td>
</tr>
</tbody>
</table>
## B.38.6 CRUDN behaviour

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/example/ColourTemperatureResURI</td>
<td>get</td>
<td>post</td>
<td></td>
<td></td>
<td>observe</td>
</tr>
</tbody>
</table>

## B.39 Colour Hue and Saturation

### B.39.1 Introduction
This resource describes the colour using hue-saturation conventions. hue is the hue angle, it is a number value as defined by the CIECAM02 model definition (see reference [CIE CIE159:2004]). A Device that does not support fractional hue angles can provide integer values. If precision (from oic.r.baseresource) is provided it applies to the hue angle. saturation is an integer value as defined by the CIECAM02 model definition (see reference [CIE CIE159:2004]). saturation can be converted to a percentage by saturation/maximumsaturation X 100; where maximumsaturation is 32767 if the Property itself is not present. maximumsaturation is the upper bound on the saturation supported by the Device. If not present the maximum value for saturation is 32767.

### B.39.2 Example URI
/example/ColourHueSaturationResURI

### B.39.3 Resource Type
The resource type (rt) is defined as: ['oic.r.colour.hs'].

### B.39.4 Swagger2.0 Definition

```json
{
    "swagger": "2.0",
    "info": {
        "title": "Colour Hue and Saturation",
        "version": "v1.0-2017",
```
"license": {
  "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
  "x-description": "Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:
  1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
  2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.
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},

"schemes": ["http"],
"consumes": ["application/json"],
"produces": ["application/json"],
"paths": {
  "/example/ColourHueSaturationResURI" : {
    "get": {
      "description": "This resource describes the colour using hue-saturation conventions.\nhue is the hue angle, it is a number value as defined by the CIECAM02 model definition (see reference \n[CIE CIE159:2004]). A Device that does not support fractional hue angles can provide integer values. If precision (from oic.r.baseresource) is provided it applies to the hue angle.\nsaturation is an integer value as defined by the CIECAM02 model definition (see reference \n[CIE CIE159:2004]). saturation can be converted to a percentage by saturation/maximumsaturation \nx 100; where maximumsaturation is 32767 if the Property itself is not present.\nProvides the colour using hue and saturation conventions.\n",
      "parameters": [
        { "$ref": "#/parameters/interface-all" }
      ],
      "responses": {
        "200": {
          "description": "",
          "x-example": {
            "rt": ["oic.r.colour.hs"],
            "id": "unique_example_id",
            "hue": 300.0,
            "saturation": 212,
            "maximumsaturation": 1000
          }
        }
      },
      "post": {
        "description": "Sets current colour hue and saturation values.\nAt least one of hue or saturation shall be provided in the payload.\n",
        "parameters": [
          { "$ref": "#/parameters/interface-a" }
        ],
        "name": "body",
        "in": "body",
        "required": true,
        "schema": { "$ref": "#/definitions/ColourHS" },
        "x-example": {
          "id": "unique_example_id",
          "hue": 300.0,
          "saturation": 212
        }
      }
    }
  }
}
"responses": {
  "200": {
    "description": "",
    "x-example": {
      "id": "unique_example_id",
      "hue": 300.0,
      "saturation": 212
    }
  },
  "schema": { "$ref": "#/definitions/ColourHS" }
},
"parameters": {
  "interface-a": {
    "in": "query",
    "name": "if",
    "type": "string",
    "enum": ["oic.if.a"]
  },
  "interface-all": {
    "in": "query",
    "name": "if",
    "type": "string",
    "enum": ["oic.if.a", "oic.if.baseline"]
  }
},
"definitions": {
  "ColourHS": {
    "properties": {
      "rt": {
        "description": "Resource Type",
        "items": {
          "maxLength": 64,
          "type": "string"
        },
        "minItems": 1,
        "readOnly": true,
        "type": "array"
      },
      "hue": {
        "description": "Hue angle as defined by the CIECAM02 model definition",
        "maximum": 360.0,
        "minimum": 0.0,
        "type": "number"
      },
      "saturation": {
        "description": "Saturation as defined by the CIECAM02 model definition",
        "maximum": 32767,
        "minimum": 0,
        "type": "integer"
      },
      "maximumsaturation": {
        "description": "Maximum supported value of Saturation for this Device",
        "maximum": 32767,
        "minimum": 0,
        "readOnly": true,
        "type": "integer"
      },
      "precision":
    },
"description": "Accuracy granularity of the exposed value",
"readOnly": true,
"type": "number"
],

"value": {
    "anyOf": [
        { "type": "array" },
        { "type": "string" },
        { "type": "boolean" },
        { "type": "integer" },
        { "type": "number" },
        { "type": "object" }
    ],
    "description": "The value sensed or actuated by this Resource"
},

"n": {
    "description": "Friendly name of the resource",
    "maxLength": 64,
    "readOnly": true,
    "type": "string"
},

"range": {
    "description": "The valid range for the value Property",
    "items": {
        "anyOf": [
            { "type": "number" },
            { "type": "integer" }
        ],
        "maxItems": 2,
        "minItems": 2,
        "readOnly": true,
        "type": "array"
    },
    "step": {
        "anyOf": [
            { "type": "integer" },
            { "type": "number" }
        ],
        "description": "Step value across the defined range",
        "readOnly": true
    }
}
B.39.5 Property Definition

Table 315 The properties definitions of the resource

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>n</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Friendly name of the resource</td>
</tr>
<tr>
<td>step</td>
<td>multiple types:</td>
<td>No</td>
<td>Read Only</td>
<td>Step value across the defined range</td>
</tr>
<tr>
<td>saturation</td>
<td>integer</td>
<td>Yes</td>
<td>Read Write</td>
<td>Saturation as defined by the CIECAM02 model definition</td>
</tr>
<tr>
<td>id</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Instance ID of this specific resource</td>
</tr>
<tr>
<td>range</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>The valid range for the value Property</td>
</tr>
<tr>
<td>maximumsaturation</td>
<td>integer</td>
<td>No</td>
<td>Read Only</td>
<td></td>
</tr>
<tr>
<td>precision</td>
<td>number</td>
<td>No</td>
<td>Read Only</td>
<td>Maximum supported value of Saturation for this Device</td>
</tr>
<tr>
<td>-----------</td>
<td>--------</td>
<td>----</td>
<td>-----------</td>
<td>------------------------------------------------------</td>
</tr>
<tr>
<td>value</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>Read Write</td>
<td>Accuracy granularity of the exposed value</td>
</tr>
<tr>
<td>rt</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>The value sensed or actuated by this Resource</td>
</tr>
<tr>
<td>hue</td>
<td>number</td>
<td>Yes</td>
<td>Read Write</td>
<td>Hue angle as defined by the CIECAM02 model definition</td>
</tr>
<tr>
<td>if</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>The interface set supported by this resource</td>
</tr>
</tbody>
</table>

**B.39.6 CRUDN behaviour**

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/example/ColourHueSaturationResURI</td>
<td>get</td>
<td>post</td>
<td></td>
<td></td>
<td>observe</td>
</tr>
</tbody>
</table>

**B.40 Colour RGB**

**B.40.1 Introduction**

This resource specifies the actual colour in the RGB space represented as an array of integers. Each colour value is described with a Red, Green, Blue component. These colour values are encoded as an array of integer values ([R,G,B]). The minimum and maximum colour value per component may be described by range (from oic.r.baseresource). When range (from oic.r.baseresource) is omitted, then the range is [0,255]. Retrieves the current colour in RGB. Value is an array of integer values in the order R,G,B.

**B.40.2 Example URI**

/ColourRGBResURI

**B.40.3 Resource Type**

The resource type (rt) is defined as: ['oic.r.colour.rgb'].

**B.40.4 Swagger2.0 Definition**

```json
{
  "swagger": "2.0",
  "info": {
    "title": "Colour RGB",
    "version": "v1.1.0-20160519"
  }
}
```
"name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved."
"x-description": "Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions are met:
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OF SUCH DAMAGE."

"schemes": ["http"],
"consumes": ["application/json"],
"produces": ["application/json"],

"paths": {
  "/ColourRGBResURI": {
    "get": {
      "description": "This resource specifies the actual colour in the RGB space represented as
an array of integers. Each colour value is described with a Red, Green, Blue component.
These colour values are encoded as an array of integer values ([R, G, B]). The minimum and maximum colour
value per component may be described by range (from oic.r.baseresource). When range is omitted, then the range is [0, 255].
Retrieves the current colour in RGB.
Value is an array of integer values in the order R, G, B.
",
      "parameters": [
        {
          "$ref": "#/parameters/interface"
        }
      ],
      "responses": {
        "200": {
          "description": "",
          "x-example": {
            "rt": ["oic.r.colour.rgb"],
            "id": "unique_example_id",
            "rgbValue": [255, 255, 255],
            "range": [0, 255]
          }
        }
      }
    },
    "post": {
      "description": "Sets the current colourRGB value",
      "parameters": [
        {
          "$ref": "#/parameters/interface"
        },
        {
          "name": "body",
          "in": "body",
          "required": true,
          "schema": { "$ref": "#/definitions/ColourRGB" },
          "x-example": {
            "id": "unique_example_id",
            "rgbValue": [255, 0, 0]
          }
        }
      ],
      "responses": {
        "200": {
          "description": "",
          "x-example": {
            "id": "unique_example_id",
            "rgbValue": [255, 0, 0]
          }
        }
      }
    }
  }
}
"rgbValue": [255, 0, 0]

"schema": {
  "$ref": "#/definitions/ColourRGB"
}

"parameters": {
  "interface": {
    "in": "query",
    "name": "if",
    "type": "string",
    "enum": ["oic.if.a", "oic.if.baseline"]
  }
}

"definitions": {
  "ColourRGB": {
    "properties": {
      "rt": {
        "description": "Resource Type",
        "items": {
          "maxLength": 64,
          "type": "string"
        },
        "minItems": 1,
        "readOnly": true,
        "type": "array"
      },
      "step": {
        "anyOf": [
          {
            "type": "integer"
          },
          {
            "type": "number"
          }
        ],
        "description": "Step value across the defined range",
        "readOnly": true
      },
      "precision": {
        "description": "Accuracy granularity of the exposed value",
        "readOnly": true,
        "type": "number"
      },
      "value": {
        "anyOf": [
          {
            "type": "array"
          },
          {
            "type": "string"
          },
          {
            "type": "boolean"
          },
          {
            "type": "integer"
          },
          {
            "type": "number"
          }
        ]
      }
    }
  }
}
"description": "The value sensed or actuated by this Resource",
},
"n": {
  "description": "Friendly name of the resource",
  "maxLength": 64,
  "readOnly": true,
  "type": "string"
},
"range": {
  "description": "The valid range for the value Property",
  "items": {
    "anyOf": {
      "type": "number"
    },
    "type": "integer"
  }
},
"rgbValue": {
  "description": "RGB value; the first item is the R, second the G, third the B.",
  "items": {
    "type": "integer"
  }
},
"id": {
  "description": "Instance ID of this specific resource",
  "maxLength": 64,
  "readOnly": true,
  "type": "string"
},
"if": {
  "description": "The interface set supported by this resource",
  "items": {
    "enum": [
      "oic.if.baseline",
      "oic.if.ll",
      "oic.if.b",
      "oic.if.lb",
      "oic.if.rw",
      "oic.if.r",
      "oic.if.s",
      "oic.if.s"
    ],
    "type": "string"
  },
  "minItems": 1,
  "readOnly": true,
"type": "array"
}

B.40.5 Property Definition

Table 317 The properties definitions of the resource

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>precision</td>
<td>number</td>
<td>No</td>
<td>Read Only</td>
<td>Accuracy granularity of the exposed value</td>
</tr>
<tr>
<td>rt</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>Resource Type</td>
</tr>
<tr>
<td>n</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Friendly name of the resource</td>
</tr>
<tr>
<td>if</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>The interface set supported by this resource</td>
</tr>
<tr>
<td>value</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>Read Write</td>
<td>The value sensed or actuated by this Resource</td>
</tr>
<tr>
<td>step</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>Step value across the defined range</td>
</tr>
<tr>
<td>rgbValue</td>
<td>array: see schema</td>
<td>Yes</td>
<td>Read Write</td>
<td>RGB value; the first item is the R, second the G, third the B.</td>
</tr>
<tr>
<td>range</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>The valid range for the value Property</td>
</tr>
<tr>
<td>id</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Instance ID of this specific resource</td>
</tr>
</tbody>
</table>

B.40.6 CRUDN behaviour

Table 318 The CRUDN operations of the resource

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/ColourRGBResURI</td>
<td>get</td>
<td>post</td>
<td></td>
<td></td>
<td>observe</td>
</tr>
</tbody>
</table>
B.41 Consumable

B.41.1 Introduction

This resource specifies a thing that can be consumed such as filter material, printer toner etc. The type is an enumeration defining the thing being consumed as defined by the Smart Home Device Specification. The remaining is an integer capturing the percentage remaining life. The orderpercentage is an integer capturing the percentage life at which replacement or replenishment is recommended by the manufacturer. The url is a string containing a URL at which further information may be obtained with respect to the consumable.

B.41.2 Example URI

/ConsumableResURI

B.41.3 Resource Type

The resource type (rt) is defined as: ['oic.r.consumable'].

B.41.4 Swagger2.0 Definition

```json
{
    "swagger": "2.0",
    "info": {
        "title": "Consumable",
        "version": "OCF-v1.0.0-20160620",
        "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
        "x-description": "Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

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    },
    "schemes": ["http"],
    "consumes": ["application/json"],
    "produces": ["application/json"],
    "paths": {
        "/ConsumableResURI": {
            "get": {
                "description": "This resource specifies a thing that can be consumed such as filter material, printer toner etc. The type is an enumeration defining the thing being consumed as defined by the Smart Home Device Specification. The remaining is an integer capturing the percentage remaining life. The orderpercentage is an integer capturing the percentage life at which replacement or replenishment is recommended by the manufacturer. The url is a string containing a URL at which further information may be obtained with respect to the consumable."
            },
            "parameters": ["$ref": "/parameters/interface"
            ],
            "responses": {
                "200": {
                    "description": "",
                    "x-example": {
                        "rt": ["oic.r.consumable"],
                        "id": "unique_example_id",
                    }
                }
            }
        }
    }
}
```
"typeofconsumable": "tonerBlack",
"remaining": 20,
"orderpercentage": 10,
"url": "http://myreorderURL"
}
}
}s
}

"parameters": {
"interface": {
"in": "query",
"name": "if",
"type": "string",
"enum": ["oic.if.s", "oic.if.baseline"]
}
}
}

"definitions": {
"consumable": {
"properties": {
"rt": {
"description": "Resource Type",
"items": {
"maxLength": 64,
"type": "string"
},
"minItems": 1,
"readOnly": true,
"type": "array"
},
"remaining": {
"description": "Percentage remaining lifespan.",
"maximum": 100,
"minimum": 0,
"readOnly": true,
"type": "integer"
},
"typeofconsumable": {
"description": "Thing that is being consumed.",
"readOnly": true,
"type": "string"
},
"url": {
"description": "URL at which additional ordering information may be found.",
"format": "uri",
"readOnly": true,
"type": "string"
},
"precision": {
"description": "Accuracy granularity of the exposed value",
"readOnly": true,
"type": "number"
},
"value": {
"anyOf": [
"type": "array"
]}
}


},
  { "type": "string" },
  { "type": "boolean" },
  { "type": "integer" },
  { "type": "number" },
  { "type": "object" }
],
"description": "The value sensed or actuated by this Resource",
"n": {
  "description": "Friendly name of the resource",
  "maxLength": 64,
  "readOnly": true,
  "type": "string" },
"range": {
  "description": "The valid range for the value Property",
  "items": [
    "anyOf": [
      { "type": "number" },
      { "type": "integer" }
    ],
    "type": "object" ]
},
"maxItems": 2,
"minItems": 2,
"readOnly": true,
"type": "array" },
"orderpercentage": {
  "description": "Percentage at which re-ordering is recommended by the manufacturer",
  "maximum": 100,
  "minimum": 0,
  "readOnly": true,
  "type": "integer" },
"step": {
  "anyOf": [
    { "type": "integer" },
    { "type": "number" }
  ],
  "description": "Step value across the defined range",
  "readOnly": true },
"id":
```json
{
    "description": "Instance ID of this specific resource",
    "maxLength": 64,
    "readOnly": true,
    "type": "string"
},

"if": {
    "description": "The interface set supported by this resource",
    "items": {
        "enum": [
            "oic.if.baseline",
            "oic.if.ll",
            "oic.if.b",
            "oic.if.lb",
            "oic.if.rw",
            "oic.if.r",
            "oic.if.a",
            "oic.if.s"
        ],
        "type": "string"
    },
    "minItems": 1,
    "readOnly": true,
    "type": "array"
}

B.41.5 Property Definition

Table 319 The properties definitions of the resource

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>if</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>The interface set supported by this resource</td>
</tr>
<tr>
<td>precision</td>
<td>number</td>
<td>No</td>
<td>Read Only</td>
<td>Accuracy granularity of the exposed value</td>
</tr>
<tr>
<td>value</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>Read Write</td>
<td>The value sensed or actuated by this Resource</td>
</tr>
<tr>
<td>url</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>URL at which additional ordering information may be found.</td>
</tr>
<tr>
<td>step</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>Step value across the defined range</td>
</tr>
<tr>
<td>Property</td>
<td>Type</td>
<td>Access</td>
<td>Description</td>
<td></td>
</tr>
<tr>
<td>---------------------</td>
<td>-----------</td>
<td>--------</td>
<td>-----------------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>orderpercentage</td>
<td>integer</td>
<td>No</td>
<td>Read Only Percentage at which re-ordering is recommended by the manufacturer</td>
<td></td>
</tr>
<tr>
<td>remaining</td>
<td>integer</td>
<td>Yes</td>
<td>Read Only Percentage remaining lifespan.</td>
<td></td>
</tr>
<tr>
<td>n</td>
<td>string</td>
<td>No</td>
<td>Read Only Friendly name of the resource</td>
<td></td>
</tr>
<tr>
<td>rt</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only Resource Type</td>
<td></td>
</tr>
<tr>
<td>range</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only The valid range for the value Property</td>
<td></td>
</tr>
<tr>
<td>typeofconsumable</td>
<td>string</td>
<td>Yes</td>
<td>Read Only Thing that is being consumed.</td>
<td></td>
</tr>
<tr>
<td>id</td>
<td>string</td>
<td>No</td>
<td>Read Only Instance ID of this specific resource</td>
<td></td>
</tr>
</tbody>
</table>

**B.41.6 CRUDN behaviour**

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/ConsumableResURI</td>
<td>get</td>
<td></td>
<td></td>
<td></td>
<td>observe</td>
</tr>
</tbody>
</table>

**B.42 Consumables Collection**

**B.42.1 Introduction**

This resource specifies things that can be consumed such as filter material, printer toner etc. The resource is a collection of instances of oic.r.consumable detailing the individual consumed items. supportedconsumables is the set of consumable types that this instance of the Resource supports.

**B.42.2 Example URI**

/ConsumablesResURI

**B.42.3 Resource Type**

The resource type (rt) is defined as: ['oic.r.consumablecollection', 'oic.wk.col'].

**B.42.4 Swagger2.0 Definition**

```json
{
  "swagger": "2.0",
  "info": {
    "title": "Consumables",
    "version": "OCF-v1.0.0-20160620",
    "license": {
```
"name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
"x-description": "Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions are met:

1. Redistributions of source code must retain the above copyright notice, this list of conditions and
the following disclaimer.

2. Redistributions in binary form must reproduce the above
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HANNE CAUSED AND
ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR
OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY
OF SUCH DAMAGE."
}
"interface-ll" : {
  "in" : "query",
  "name" : "if",
  "type" : "string",
  "enum" : ["oic.if.ll"]
},

"interface-baseline" : {
  "in" : "query",
  "name" : "if",
  "type" : "string",
  "enum" : ["oic.if.baseline"]
},

"interface-all" : {
  "in" : "query",
  "name" : "if",
  "type" : "string",
  "enum" : ["oic.if.ll", "oic.if.baseline"]
}

"definitions": {
  "consumables-ll" : {
    "title": "Consumables Collection Link List Schema (auto merged)"
  },
  "consumables" : {
    "properties": {
      "rt": {
        "items": {
          "$ref": "#/definitions/oic.oic-link"
        }
      }
    }
  }
}

"consumables": {
  "properties": {
    "rt": {
      "items": {
        "enum": ["oic.r.consumablecollection", "oic.wk.col"]
      }
    },
    "type": "string"
  },
  "maxItems": 2,
  "minItems": 2,
  "type": "array",
  "uniqueItems": true
},

"supportedconsumables": {
  "description": "Array of possible consumables the device measures."
"items": [  
  "type": "string"
],
"readOnly": true,
"type": "array"
},
"links": {
  "description": "A set of simple or individual OIC Links.",
  "items": {
    "properties": {
      "anchor": {
        "description": "This is used to override the context URI e.g. override the URI of the containing collection.",
        "format": "uri",
        "maxLength": 256,
        "type": "string"
      },
      "di": {
        "description": "The Device ID formatted according to IETF RFC 4122.",
        "pattern": "^[0-9a-zA-Z]{8}\-[0-9a-zA-Z]{4}\-[0-9a-zA-Z]{4}\-[0-9a-zA-Z]{4}\-[0-9a-zA-Z]{12}$",
        "type": "string"
      },
      "eps": {
        "description": "The Endpoint information of the target Resource",
        "items": {
          "properties": {
            "ep": {
              "description": "Transport Protocol Suite + Endpoint Locator",
              "format": "uri",
              "type": "string"
            },
            "pri": {
              "description": "The priority among multiple Endpoints",
              "minimum": 1,
              "type": "integer"
            }
          },
          "type": "object"
        },
        "type": "array"
      },
      "href": {
        "description": "This is the target URI, it can be specified as a Relative Reference or fully-qualified URI.",
        "format": "uri",
        "maxLength": 256,
        "type": "string"
      },
      "if": {
        "description": "The interface set supported by this resource",
        "items": {
          "enum": ["oic.if.baseline", "oic.if.ill", "oic.if.b", "oic.if.rw", "oic.if.r", "oic.if.a", "oic.if.s"]
        },
        "type": "string"
      },
      "ins": {
        "description": "The instance identifier for this web link in an array of web links used in collections",
        "minItems": 1,
        "type": "array"
      }
    }
  }
}
"type": "integer"
",
"p": {
  "description": "Specifies the framework policies on the Resource referenced by the target URI",
  "properties": {
    "lm": {
      "description": "Specifies the framework policies on the Resource referenced by the target URI for e.g. observable and discoverable",
    "type": "integer"
    }
  },
  "required": [
    "lm"
  ],
  "type": "object"
},
"rel": {
  "description": "The relation of the target URI referenced by the link to the context URI",
  "oneOf": [
    {
      "default": ["hosts"],
      "items": {
        "maxLength": 64,
        "type": "string"
      },
      "minItems": 1,
      "type": "array"
    },
    {
      "default": "hosts",
      "maxLength": 64,
      "type": "string"
    }
  ]
},
"rt": {
  "description": "Resource Type of the Resource",
  "items": {
    "maxLength": 64,
    "type": "string"
  },
  "minItems": 1,
  "type": "array"
},
"title": {
  "description": "A title for the link relation. Can be used by the UI to provide a context.",
  "maxLength": 64,
  "type": "string"
},
"type": {
  "default": "application/cbor",
  "description": "A hint at the representation of the resource referenced by the target URI. This represents the media types that are used for both accepting and emitting.",
  "items": {
    "maxLength": 64,
    "type": "string"
  },
  "minItems": 1,
  "type": "array"
}
"type": "object",
},
"type": "array"
},
"n" :
{
"description": "Friendly name of the resource",
"maxLength": 64,
"readOnly": true,
"type": "string"
},
"rts" :
{
"items": {
"anyOf": [
{
"enum": [
"oic.r.consumable",
"oic.r.value.conditional"
],
"type": "string"
},
{
"enum": [
"oic.r.consumable"
],
"type": "string"
}
],
"maxItems": 2,
"minItems": 1,
"type": "array",
"uniqueItems": true
},
"id" :
{
"description": "Instance ID of this specific resource",
"maxLength": 64,
"readOnly": true,
"type": "string"
},
"if" :
{
"description": "The interface set supported by this resource",
"items": {
"enum": [
"oic.if.baseline",
"oic.if.ll",
"oic.if.b",
"oic.if.lb",
"oic.if.rw",
"oic.if.r",
"oic.if.a",
"oic.if.s"
],
"type": "string"
},
"minItems": 1,
"readOnly": true,
"type": "array"
}
"type": "object"
,"oic.collection.links.arrayoflinks" :
```json
{
  "properties": {
    "links": {
      "description": "A set of simple or individual OIC Links.",
      "items": {
        "properties": {
          "anchor": {
            "description": "This is used to override the context URI e.g. override the URI of the containing collection.",
            "format": "uri",
            "maxLength": 256,
            "type": "string"
          },
          "di": {
            "description": "The Device ID formatted according to IETF RFC 4122.",
            "pattern": "^[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{12}$",
            "type": "string"
          },
          "eps": {
            "description": "the Endpoint information of the target Resource",
            "items": {
              "properties": {
                "ep": {
                  "description": "Transport Protocol Suite + Endpoint Locator",
                  "format": "uri",
                  "type": "string"
                },
                "pri": {
                  "description": "The priority among multiple Endpoints",
                  "minimum": 1,
                  "type": "integer"
                }
              }
            },
            "type": "object"
          },
          "href": {
            "description": "This is the target URI, it can be specified as a Relative Reference or fully-qualified URI.",
            "format": "uri",
            "maxLength": 256,
            "type": "string"
          },
          "if": {
            "description": "The interface set supported by this resource",
            "items": {
              "enum": [
                "oic.if.baseline",
                "oic.if.ll",
                "oic.if.b",
                "oic.if.rw",
                "oic.if.r",
                "oic.if.a",
                "oic.if.s"
              ],
              "type": "string"
            },
            "minItems": 1,
            "type": "array"
          },
          "ins": {
            "description": "The instance identifier for this web link in an array of web links - used in collections",
            "type": "integer"
          },
          "p": {
            "description": "Specifies the framework policies on the Resource referenced by the target URI",
            "properties": {
```
"bm": {
    "description": "Specifies the framework policies on the Resource referenced by
the target URI for e.g. observable and discoverable",
    "type": "integer"
},

"required": ["bm"],
"type": "object"
"rel": {
    "description": "The relation of the target URI referenced by the link to the
context URI",
    "oneOf": [
        {
            "default": ["hosts"],
            "items": {
                "maxLength": 64,
                "type": "string"
            },
            "minItems": 1,
            "type": "array"
        },
        {
            "default": "hosts",
            "maxLength": 64,
            "type": "string"
        }
    ]
},
"rt": {
    "description": "Resource Type of the Resource",
    "items": {
        "maxLength": 64,
        "type": "string"
    },
    "minItems": 1,
    "type": "array"
},
"title": {
    "description": "A title for the link relation. Can be used by the UI to provide a
context.",
    "maxLength": 64,
    "type": "string"
},
"type": {
    "default": "application/cbor",
    "description": "A hint at the representation of the resource referenced by the
target URI. This represents the media types that are used for both accepting and emitting.",
    "items": {
        "maxLength": 64,
        "type": "string"
    },
    "minItems": 1,
    "type": "array"
},
"required": ["href", "rt", "if"],
"type": "object"
},
"type": "array"}
"oic.collection.properties": {
  "description": "A collection is a set of links along with additional properties to describe the collection itself",
  "properties": {
    "rts": {
      "$ref": "#/definitions/oic.core/properties/rt",
      "description": "The list of allowable resource types (for Target and anchors) in links included in the collection"
    },
    "type": "object"
  }
},
"oic.core": {
  "properties": {
    "id": {
      "description": "Instance ID of this specific resource",
      "maxLength": 64,
      "readOnly": true,
      "type": "string"
    },
    "if": {
      "description": "The interface set supported by this resource",
      "items": {
        "enum": [
          "oic.if.baseline",
          "oic.if.ll",
          "oic.if.b",
          "oic.if.lb",
          "oic.if.rw",
          "oic.if.r",
          "oic.if.a",
          "oic.if.s"
        ],
        "type": "string"
      },
      "minItems": 1,
      "readOnly": true,
      "type": "array"
    },
    "n": {
      "description": "Friendly name of the resource",
      "maxLength": 64,
      "readOnly": true,
      "type": "string"
    },
    "rt": {
      "description": "Resource Type",
      "items": {
        "maxLength": 64,
        "type": "string"
      },
      "minItems": 1,
      "readOnly": true,
      "type": "array"
    },
    "type": "object"
  }
},
"consumablecollection-ll": {
  "items": {
    "$ref": "#/definitions/oic.oic-link"
  },
  "type": "array"
}
"oic.r.consumablecollection":{
  "properties":{
    "rt":{
      "items":{
        "enum":[
          "oic.r.consumablecollection",
          "oic.wk.col"
        ],
        "type":"string"
      },
      "maxItems":2,
      "minItems":2,
      "type":"array",
      "uniqueItems":true
    },
    "rts":{
      "items":{
        "anyOf":[
          {
            "enum":[
              "oic.r.consumable",
              "oic.r.value.conditional"
            ],
            "type":"string"
          },
          {
            "enum":[
              "oic.r.consumable"
            ],
            "type":"string"
          }
        ]
      },
      "maxItems":2,
      "minItems":1,
      "type":"array",
      "uniqueItems":true
    },
    "supportedconsumables":{
      "description":"Array of possible consumables the device measures.",
      "items":{
        "type":"string"
      },
      "readOnly":true,
      "type":"array"
    }
  }
},
"oic.oic-link":{
  "properties":{
    "anchor":{
      "description":"This is used to override the context URI e.g. override the URI of the containing collection.",
      "format":"uri",
      "maxLength":256,
      "type":"string"
    },
    "di":{
      "description":"The Device ID formatted according to IETF RFC 4122.",
      "pattern":"^[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{12}\$",
      "type":"string"
    },
    "eps":{
      "description":"the Endpoint information of the target Resource",
      "items":{
        "properties":{

"ep": {
"description": "Transport Protocol Suite + Endpoint Locator",
"format": "uri",
"type": "string"
},
"pri": {
"description": "The priority among multiple Endpoints",
"minimum": 1,
"type": "integer"
}
},
"type": "object"
},
"href": {
"description": "This is the target URI, it can be specified as a Relative Reference or fully-qualified URI.",
"format": "uri",
"maxLength": 256,
"type": "string"
},
"if": {
"description": "The interface set supported by this resource",
"items": [
"enum": [
"oic.if.baseline",
"oic.if.ll",
"oic.if.b",
"oic.if.rw",
"oic.if.r",
"oic.if.a",
"oic.if.s"
],
"type": "string"
],
"minItems": 1,
"type": "array"
},
"ins": {
"description": "The instance identifier for this web link in an array of web links - used in collections",
"type": "integer"
},
"p": {
"description": "Specifies the framework policies on the Resource referenced by the target URI",
"properties": {
"bm": {
"description": "Specifies the framework policies on the Resource referenced by the target URI for e.g. observable and discoverable",
"type": "integer"
}
},
"required": [
"bm"
],
"type": "object"
},
"rel": {
"description": "The relation of the target URI referenced by the link to the context URI",
"oneOf": [
{
"default": [
"hosts"
],
"items": [
"maxLength": 64,
"type": "string"
]
}]}
Table 321 The properties definitions of the resource

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>rt</td>
<td>array: see schema</td>
<td>Read Only</td>
<td>Resource Type</td>
<td></td>
</tr>
<tr>
<td>id</td>
<td>string</td>
<td>Read Only</td>
<td>Instance ID of this specific resource</td>
<td></td>
</tr>
<tr>
<td>n</td>
<td>string</td>
<td>Read Only</td>
<td>Friendly name of this resource</td>
<td></td>
</tr>
<tr>
<td>if</td>
<td>array: see schema</td>
<td>Read Only</td>
<td>The interface set supported by this resource</td>
<td></td>
</tr>
<tr>
<td>Property</td>
<td>Type</td>
<td>Read/Write</td>
<td>Description</td>
<td></td>
</tr>
<tr>
<td>-------------------</td>
<td>-----------------------</td>
<td>------------</td>
<td>------------------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>rts</td>
<td>array: see schema</td>
<td>Read Write</td>
<td></td>
<td></td>
</tr>
<tr>
<td>rt</td>
<td>array: see schema</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>supportedconsumables</td>
<td>array: see schema</td>
<td>Read Only</td>
<td>Array of possible consumables the device measures.</td>
<td></td>
</tr>
<tr>
<td>links</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Write</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>A set of simple or individual OIC Links.</td>
<td></td>
</tr>
<tr>
<td>supportedconsumables</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Write</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>A set of simple or individual OIC Links.</td>
<td></td>
</tr>
<tr>
<td>rt</td>
<td>array: see schema</td>
<td>Yes</td>
<td>Read Write</td>
<td></td>
</tr>
<tr>
<td>n</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Friendly name of the resource</td>
<td></td>
</tr>
<tr>
<td>if</td>
<td>array: see schema</td>
<td>Yes</td>
<td>Read Only</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>The interface set supported by this resource</td>
<td></td>
</tr>
<tr>
<td>rts</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Write</td>
<td></td>
</tr>
<tr>
<td>id</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Instance ID of this specific resource</td>
<td></td>
</tr>
<tr>
<td>supportedconsumables</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Array of possible consumables the device measures.</td>
<td></td>
</tr>
<tr>
<td>rts</td>
<td>multiple types: see schema</td>
<td>Read Write</td>
<td>The list of allowable resource types (for Target and anchors) in links included in the collection</td>
<td></td>
</tr>
<tr>
<td>ins</td>
<td>integer</td>
<td>No</td>
<td>Read Write</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>The instance identifier for this web link in an array of web links - used in collections</td>
<td></td>
</tr>
<tr>
<td>title</td>
<td>string</td>
<td>No</td>
<td>Read Write</td>
<td></td>
</tr>
<tr>
<td>Field</td>
<td>Type</td>
<td>Default</td>
<td>Read</td>
<td>Write</td>
</tr>
<tr>
<td>-------</td>
<td>------</td>
<td>---------</td>
<td>------</td>
<td>-------</td>
</tr>
<tr>
<td>rt</td>
<td>array: see schema</td>
<td>Yes</td>
<td>Read Write</td>
<td>A title for the link relation. Can be used by the UI to provide a context.</td>
</tr>
<tr>
<td>type</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Write</td>
<td>A hint at the representation of the resource referenced by the target URI. This represents the media types that are used for both accepting and emitting.</td>
</tr>
<tr>
<td>eps</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Write</td>
<td>the Endpoint information of the target Resource</td>
</tr>
<tr>
<td>if</td>
<td>array: see schema</td>
<td>Yes</td>
<td>Read Write</td>
<td>The interface set supported by this resource</td>
</tr>
<tr>
<td>href</td>
<td>string</td>
<td>Yes</td>
<td>Read Write</td>
<td>This is the target URI, it can be specified as a Relative Reference or fully-qualified URI.</td>
</tr>
<tr>
<td>di</td>
<td>string</td>
<td>No</td>
<td>Read Write</td>
<td>The Device ID formatted according to IETF RFC 4122.</td>
</tr>
<tr>
<td>anchor</td>
<td>string</td>
<td>No</td>
<td>Read Write</td>
<td>This is used to override the context URI e.g. override the URI of the containing collection.</td>
</tr>
<tr>
<td>p</td>
<td>object: see schema</td>
<td>No</td>
<td>Read Write</td>
<td>Specifies the framework policies on the Resource</td>
</tr>
</tbody>
</table>
Table 322 The CRUDN operations of the resource

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/ConsumablesResURI</td>
<td>get</td>
<td></td>
<td></td>
<td></td>
<td>observe</td>
</tr>
</tbody>
</table>

B.43 Contact Sensor

B.43.1 Introduction

This resource describes whether a contact sensor has been tripped or not. Typical use case is in Security Systems detecting window or door open. The value is a boolean. A value of 'true' means that contact has been broken (open). A value of 'false' means that contact is in place (closed).

B.43.2 Example URI

/ContactResURI

B.43.3 Resource Type

The resource type (rt) is defined as: ['oic.r.sensor.contact'].

B.43.4 Swagger2.0 Definition

```json
{
    "swagger": "2.0",
    "info": {
        "title": "Contact Sensor",
        "version": "v1.1.0-20160519",
        "license": {
            "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved."
        },
        "x-description": "Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:\n1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.\n2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.\nTHIS SOFTWARE IS PROVIDED BY The Open Connectivity Foundation, INC. "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR WARRANTIES OF NON-INFRINGEMENT, ARE DISCLAIMED. IN NO EVENT SHALL The Open Connectivity Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE."
    },
    "schemes": ["http"],
    "consumes": ["application/json"],
    "produces": ["application/json"],
    "paths": {
        "/ContactResURI": {
            "get": {
                "description": "This resource describes whether a contact sensor has been tripped or not."
            }
        }
    }
}
```
Typical use case is in Security Systems detecting window or door open.
The value is a boolean. A value of 'true' means that contact has been broken (open). A value of 'false' means that contact is in place (closed).

```
"parameters": [  
  {"$ref": "#/parameters/interface"}  
],  
"responses": {  
  "200": {  
    "description": "",  
    "x-example": {  
      "rt": ["oic.r.sensor.contact"],  
      "id": "unique_example_id",  
      "value": true  
    }  
  }  
},  
"parameters": {  
  "interface": {  
    "in": "query",  
    "name": "if",  
    "type": "string",  
    "enum": ["oic.if.s", "oic.if.baseline"]  
  }  
},  
"definitions": {  
  "Contact": {  
    "properties": {  
      "rt": {  
        "description": "Resource Type",  
        "items": {  
          "maxLength": 64,  
          "type": "string"  
        },  
        "minItems": 1,  
        "readOnly": true,  
        "type": "array"  
      },  
      "precision": {  
        "description": "Accuracy granularity of the exposed value",  
        "readOnly": true,  
        "type": "number"  
      },  
      "value": {  
        "description": "true = sensed, false = not sensed.",  
        "readOnly": true,  
        "type": "boolean"  
      },  
      "n": {  
        "description": "Friendly name of the resource",  
        "maxLength": 64,  
        "readOnly": true,  
        "type": "string"  
      },  
      "range": {  
        "description": "The valid range for the value Property",  
        "items": {  
          "maxLength": 64,  
          "type": "string"  
        }  
      }  
    }  
  }  
}
```
B.43.5 Property Definition

Table 323 The properties definitions of the resource

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
</table>

Copyright Open Connectivity Foundation, Inc. © 2016-18. All rights Reserved 597
<table>
<thead>
<tr>
<th>Property</th>
<th>Type</th>
<th>Access</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>value</td>
<td>boolean</td>
<td>Read Only</td>
<td>true = sensed, false = not sensed.</td>
</tr>
<tr>
<td>if</td>
<td>array: see schema</td>
<td>No</td>
<td>The interface set supported by this resource</td>
</tr>
<tr>
<td>id</td>
<td>string</td>
<td>Read Only</td>
<td>Instance ID of this specific resource</td>
</tr>
<tr>
<td>rt</td>
<td>array: see schema</td>
<td>No</td>
<td>Resource Type</td>
</tr>
<tr>
<td>precision</td>
<td>number</td>
<td>Read Only</td>
<td>Accuracy granularity of the exposed value</td>
</tr>
<tr>
<td>range</td>
<td>array: see schema</td>
<td>No</td>
<td>The valid range for the value Property</td>
</tr>
<tr>
<td>step</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>Step value across the defined range</td>
</tr>
<tr>
<td>n</td>
<td>string</td>
<td>Read Only</td>
<td>Friendly name of the resource</td>
</tr>
</tbody>
</table>

### B.43.6 CRUDN behaviour

#### Table 324 The CRUDN operations of the resource

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/ContactResURI</td>
<td>get</td>
<td></td>
<td></td>
<td></td>
<td>observe</td>
</tr>
</tbody>
</table>

### B.44 Delay Defrost

#### B.44.1 Introduction

This resource describes the delay defrost function as defined by the US Energy Star Specifications. See Energy Star Refrigerator Requirements Version 5 Section 4G (https://www.energystar.gov/sites/default/files/specs/private/ENERGY%20STAR%20Final%20Version%205.0%20Residential%20Refrigerators%20and%20Freezers%20Program%20Requirements.pdf)

The status is a boolean indicating whether the function is on, if off then defrost is scheduled as part of normal device operation.

startTime, from oic.r.time.period (mandatory) is an ISO8601 encoded start time for the interval in which defrost shall not occur.

stopTime, from oic.r.time.period is an ISO8601 encoded stop time for the interval in which defrost shall not occur.

interval, from oic.r.time.period with additional range restrictions is the time in minutes of the period that starts at starttime (if not present the default is 240).

stopTime and interval are mutually exclusive; they cannot both be present in a Resource.

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B.44.2 Example URI
/DelayDefrostResURI

B.44.3 Resource Type
The resource type (rt) is defined as: [oic.r.delaydefrost].

B.44.4 Swagger2.0 Definition

```json
{
  "swagger": "2.0",
  "info": {
    "title": "Delay Defrost",
    "version": "OCF_v1.0.0-2016___",
    "license": {
      "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
      "x-description": "Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions are met:\n1. Redistributions of source code must retain the above copyright notice, this list of conditions and
the following disclaimer.\n2. Redistributions in binary form must reproduce the above
copyright notice, this list of conditions and the following disclaimer in the documentation and/or
other materials provided with the distribution.\nTHIS SOFTWARE IS PROVIDED BY THE Open
Connectivity Foundation, INC. "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR
WARRANTIES OF NON-INFRINGEMENT, ARE DISCLAIMED.\nIN NO EVENT SHALL THE Open Connectivity
Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL,
EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS
OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
HOWEVER CAUSED AND
ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR
OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY
OF SUCH DAMAGE."
  },
  "schemes": ["http"],
  "consumes": ["application/json"],
  "produces": ["application/json"],
  "paths": {
    "/DelayDefrostResURI": {
      "get": {
        "description": "This resource describes the delay defrost function as defined by the US
Energy Star Specifications.\nSee Energy Star Refrigerator Requirements Version 5 Section
4)4\n(https://www.energystar.gov/sites/default/files/specs/private/ENERGY%20STAR%20Final%20Version
%205.0%20Residential%20Refrigerators%20and%20Freezers%20Program%20Requirements.pdf)\nThe status is
a boolean indicating whether the function is on, if off then defrost is scheduled as part of normal
device operation.\nstartTime, from oir.r.time.period (mandatory) is an ISO8601 encoded start time
for the interval in which defrost shall not occur.\nstopTime, from oir.r.time.period is an ISO8601
encoded stop time for the interval in which defrost shall not occur.\ninterval, from
oir.r.time.period with additional range restrictions is the time in minutes of the period that
starts at startTime (if not present the default is 240).\n\nstartTime and interval are mutually
exclusive; they cannot both be present in a Resource instance\nRetrieves the current Delay Defrost
function status\n",
        "parameters": [
          {"$ref": "#/parameters/interface"}
        ],
        "responses": {
          "200": {
            "description": "",
            "x-example": {
              "rt": ["oic.r.delaydefrost"],
              "id": "unique_example_id",
              "startTime": "06:00Z",
              "status": false
            }
          }
        }
      }
    }
  }
}
```

"post": {
  "description": "Activates the desired Delay Defrost functions",
  "parameters": [
    {
      "$ref": "#/parameters/interface"},
    {
      "name": "body",
      "in": "body",
      "required": true,
      "schema": { "$ref": "#/definitions/DelayDefrost" },
      "x-example": {
        "id": "unique_example_id",
        "status": true,
        "startTime": "06:00Z",
        "interval": 180
      }
    }
  ],
  "responses": {
    "200": {
      "description": "Indicates that the DelayDefrost function was changed. The new representation may be provided in the response."
    },
    "403": {
      "description": "Indicates the update to the time properties was rejected. Reasons for rejection: invalid time entry The current unchanged representation may be provided in the response."
    }
  }
},
"parameters": {
  "interface": {
    "in": "query",
    "name": "if",
    "type": "string",
    "enum": ["oic.if.a", "oic.if.baseline"]
  }
},
"definitions": {
  "DelayDefrost": {
    "properties": {
      "rt": {
        "description": "Resource Type",
        "items": {
          "maxLength": 64,
          "type": "string"
        },
        "minItems": 1,
        "readOnly": true,
        "type": "array"
      }
    }
  }
}
"type": "array",
}

"status": {
  "description": "Indicates whether any supported delay defrost function is active",
  "type": "boolean"
},

"interval": {
  "default": 240,
  "description": "Defrost interval as defined by Energy Star",
  "maximum": 1440,
  "minimum": 1,
  "type": "integer"
},

"precision": {
  "description": "Accuracy granularity of the exposed value",
  "readOnly": true,
  "type": "number"
},

"value": {
  "anyOf": [
    {
      "type": "array"
    },
    {
      "type": "string"
    },
    {
      "type": "boolean"
    },
    {
      "type": "integer"
    },
    {
      "type": "number"
    },
    {
      "type": "object"
    }
  ],
  "description": "The value sensed or actuated by this Resource"
},

"n": {
  "description": "Friendly name of the resource",
  "maxLength": 64,
  "readOnly": true,
  "type": "string"
},

"range": {
  "description": "The valid range for the value Property",
  "items": [
    {
      "anyOf": [
        {
          "type": "number"
        },
        {
          "type": "integer"
        }
      ]
    }
  ]
}
"maxItems": 2,
"minItems": 2,
"readOnly": true,
"type": "array"
],

"stopTime": {
  "description": "Stop time for the time period, if present interval cannot be present",
  "type": "string"
},

"startTime": {
  "description": "Start time for the time period",
  "type": "string"
},

"step": {
  "anyOf": [
    {"type": "integer"},
    {"type": "number"}
  ],
  "description": "Step value across the defined range",
  "readOnly": true
},

"id": {
  "description": "Instance ID of this specific resource",
  "maxLength": 64,
  "readOnly": true,
  "type": "string"
},

"if": {
  "description": "The interface set supported by this resource",
  "items": {
    "enum": [
      "oic.if.baseline",
      "oic.if.ll",
      "oic.if.b",
      "oic.if.lb",
      "oic.if.rw",
      "oic.if.r",
      "oic.if.s",
      "oic.if.a"
    ],
    "type": "string"
  },
  "minItems": 1,
  "readOnly": true,
  "type": "array"
}
### B.44.5 Property Definition

#### Table 325 The properties definitions of the resource

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>n</td>
<td>string</td>
<td></td>
<td>Read Only</td>
<td>Friendly name of the resource</td>
</tr>
<tr>
<td>step</td>
<td>multiple types: see schema</td>
<td></td>
<td>Read Only</td>
<td>Step value across the defined range</td>
</tr>
<tr>
<td>if</td>
<td>array: see schema</td>
<td></td>
<td>Read Only</td>
<td>The interface set supported by this resource</td>
</tr>
<tr>
<td>startTime</td>
<td>string</td>
<td></td>
<td>Read Write</td>
<td>Start time for the time period</td>
</tr>
<tr>
<td>precision</td>
<td>number</td>
<td></td>
<td>Read Only</td>
<td>Accuracy granularity of the exposed value</td>
</tr>
<tr>
<td>stopTime</td>
<td>string</td>
<td></td>
<td>Read Write</td>
<td>Stop time for the time period, if present interval cannot be present</td>
</tr>
<tr>
<td>id</td>
<td>string</td>
<td></td>
<td>Read Only</td>
<td>Instance ID of this specific resource</td>
</tr>
<tr>
<td>status</td>
<td>boolean</td>
<td></td>
<td>Read Write</td>
<td>Indicates whether any supported delay defrost function is active</td>
</tr>
<tr>
<td>interval</td>
<td>integer</td>
<td></td>
<td>Read Write</td>
<td>Defrost interval as defined by Energy Star</td>
</tr>
<tr>
<td>rt</td>
<td>array: see schema</td>
<td></td>
<td>Read Only</td>
<td>Resource Type</td>
</tr>
<tr>
<td>value</td>
<td>multiple types: see schema</td>
<td></td>
<td>Read Write</td>
<td>The value sensed or actuated by this Resource</td>
</tr>
<tr>
<td>range</td>
<td>array: see schema</td>
<td></td>
<td>Read Only</td>
<td>The valid range for the value Property</td>
</tr>
</tbody>
</table>
B.44.6 CRUDN behaviour

Table 326 The CRUDN operations of the resource

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/DelayDefrostResURI</td>
<td>get</td>
<td>post</td>
<td></td>
<td></td>
<td>observe</td>
</tr>
</tbody>
</table>

B.45 Dimming

B.45.1 Introduction

This resource describes a dimming function.
The value is an integer showing the current dimming level.
If step (from oic.r.baseresource) is present then it represents the increment between dimmer values.
When range (from oic.r.baseresource) is omitted, then the range is \([0,100]\).
A value of 0 means total dimming; a value of 100 means no dimming.

B.45.2 Example URI

/DimmingResURI

B.45.3 Resource Type

The resource type (rt) is defined as: [\'oic.r.light_dimming\'].

B.45.4 Swagger2.0 Definition

```json
{
  "swagger": "2.0",
  "info": {
    "title": "Dimming",
    "version": "v1.1.0-20160519",
    "license": {
      "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
      "x-description": "Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:
1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
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    }
  },
  "schemes": ["http"],
  "consumes": ["application/json"],
  "produces": ["application/json"],
  "paths": {
    "/DimmingResURI": {
      "get": {
        "description": "This resource describes a dimming function. The value is an integer showing the current dimming level. If step (from oic.r.baseresource) is present then it represents the increment between dimmer values. When range (from oic.r.baseresource) is omitted, then the range is \([0,100]\). A value of 0 means total dimming; a value of 100 means no dimming. Retrieves the current dimming level."
      }
    }
  }
}
```
"description": "",
  "x-example":
  {
    "rt": ["oic.r.light.dimming"],
    "id": "unique_example_id",
    "dimmingSetting": 30,
    "step": 5,
    "range": [0,100]
  }
}

"schema": { "$ref": "#/definitions/Dimming" }

"post": {
  "description": "Sets the desired dimming level.
  
  "parameters": [
    ["$ref": "#/parameters/interface"],
    {
      "name": "body",
      "in": "body",
      "required": true,
      "schema": { "$ref": "#/definitions/Dimming" },
      "x-example": {
        "id": "unique_example_id",
        "dimmingSetting": 40
      }
    }
  ],

  "responses": {
    "200": {
      "description": "Indicates that the dimming was changed. The new dimming level is provided in the response."
    },
    "403": {
      "description": "This response is generated by the OIC Server when the client sends:
      An update with an out of range property value for dimmingSetting. The server responds with the current resource representation."
    }
  }
}

"parameters": {
  "interface": {
    "in": "query",
    "name": "if",
    "type": "string",
    "enum": ["oic.if.a", "oic.if.baseline"]
  }
}

"definitions": {
  "Dimming": {
    "properties": {
      "rt": ["oic.r.light.dimming"]
    }
  }
}
"description": "Resource Type",
"items": {
  "maxLength": 64,
  "type": "string"
},
"minItems": 1,
"readOnly": true,
"type": "array"
},
"precision": {
 "description": "Accuracy granularity of the exposed value",
"readOnly": true,
"type": "number"
},
"value": {
  "anyOf": [
    { "type": "array" },
    { "type": "string" },
    { "type": "boolean" },
    { "type": "integer" },
    { "type": "number" },
    { "type": "object" }
  ],
  "description": "The value sensed or actuated by this Resource"
},
"n": {
 "description": "Friendly name of the resource",
"maxLength": 64,
"readOnly": true,
"type": "string"
},
"range": {
 "description": "The valid range for the value Property",
 "items": {
  "anyOf": [
    { "type": "number" },
    { "type": "integer" }
  ],
  "maxItems": 2,
  "minItems": 2,
  "readOnly": true,
  "type": "array"
 },
"step": {"n": 0,
"anyOf": [
  {
    "type": "integer"
  },
  {
    "type": "number"
  },
  {
    "description": "Step value across the defined range",
    "readOnly": true
  },
  
  "dimmingSetting": {
    "description": "Current dimming value",
    "type": "integer"
  },
  
  "id": {
    "description": "Instance ID of this specific resource",
    "maxLength": 64,
    "readOnly": true,
    "type": "string"
  },
  
  "if": {
    "description": "The interface set supported by this resource",
    "items": {
      "enum": [
        "oic.if.baseline",
        "oic.if.ll",
        "oic.if.b",
        "oic.if.lb",
        "oic.if.rw",
        "oic.if.r",
        "oic.if.a",
        "oic.if.s"
      ],
      "type": "string"
    },
    "minItems": 1,
    "readOnly": true,
    "type": "array"
  }
],
"type": "object",
"required": ["dimmingSetting"]
}

### B.45.5 Property Definition

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>value</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>Read Write</td>
<td>The value sensed or actuated by this Resource</td>
</tr>
<tr>
<td>step</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>Read Only</td>
<td></td>
</tr>
<tr>
<td>Property</td>
<td>Type</td>
<td>Access</td>
<td>Description</td>
<td></td>
</tr>
<tr>
<td>---------------------------</td>
<td>---------</td>
<td>--------</td>
<td>-----------------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>dimmingSetting</td>
<td>integer</td>
<td>Yes</td>
<td>Current dimming value</td>
<td></td>
</tr>
<tr>
<td>id</td>
<td>string</td>
<td>No</td>
<td>Instance ID of this specific resource</td>
<td></td>
</tr>
<tr>
<td>precision</td>
<td>number</td>
<td>No</td>
<td>Accuracy granularity of the exposed value</td>
<td></td>
</tr>
<tr>
<td>n</td>
<td>string</td>
<td>No</td>
<td>Friendly name of the resource</td>
<td></td>
</tr>
</tbody>
</table>

**Table 328 The CRUDN operations of the resource**

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/DimmingResURI</td>
<td>get</td>
<td>post</td>
<td></td>
<td></td>
<td>observe</td>
</tr>
</tbody>
</table>

**B.46 Door**

**B.46.1 Introduction**

This resource describes the open state of the door.

A door is modelled by means of openState (Open/Closed), openDuration (ISO 8601 Time), and openAlarm (boolean).

For openState, the value 'Open' indicates the door is open.

The value 'Closed' indicates the door is closed.

The type of openDuration is an ISO 8601 Time encoded string.

The openAlarm value 'true' indicates that the open alarm is active.

The openAlarm value 'false' indicates that open alarm is not active.

**B.46.2 Example URI**

/DoorResURI

**B.46.3 Resource Type**

The resource type (rt) is defined as: ['oic.r.door'].
"info": {
  "title": "Door",
  "version": "v1.1.0-20160519",
  "license": {
    "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved."
  }
},

"schemes": ["http"],
"consumes": ["application/json"],
"produces": ["application/json"],
"paths": {
  "/DoorResURI" : {
    "get": {
      "description": "This resource describes the open state of the door. A door is modelled by means of openState (Open/Closed), openDuration (ISO 8601 Time), and openAlarm (boolean). For openState, the value 'Open' indicates the door is open. The value 'Closed' indicates the door is closed. The type of openDuration is an ISO 8601 Time encoded string. The openAlarm value 'true' indicates that the open alarm is active. The openAlarm value 'false' indicates that open alarm is not active. Retreives the state of the Door."",
      "parameters": ["$ref": "/#parameters/interface-all"],
      "responses": {
        "200": {
          "description" : ",
          "x-example": {
            "rt" : ["oic.r.door"],
            "id": "unique_example_id",
            "openState": "Open",
            "openDuration": "P0Y0M0DT2H25M5S",
            "openAlarm": true
          }
        }
      }
    },
    "post": {
      "description": "Sets the current Door properties. The only property that can be set as part of an update operation is the openAlarm. This can be made active (true) or inactive (false)"
    }
  }
}

"license": {
  "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved."
}

"x-description": "Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

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"responses": {
  "200": {
    "description": "",
    "x-example": {
      "id": "unique_example_id",
      "openAlarm": false
    }
  },
  "schema": { "$ref": "#/definitions/DoorUpdate" }},

"parameters": {
  "interface-actuator": {
    "in": "query",
    "name": "if",
    "type": "string",
    "enum": ["oic.if.a", "oic.if.baseline"]
  },
  "interface-all": {
    "in": "query",
    "name": "if",
    "type": "string",
    "enum": ["oic.if.a", "oic.if.s", "oic.if.baseline"]
  }
},

"definitions": {
  "Door": {
    "properties": {
      "rt": {
        "description": "Resource Type",
        "items": {
          "maxLength": 64,
          "type": "string"
        },
        "minItems": 1,
        "readOnly": true,
        "type": "array"
      },
      "precision": {
        "description": "Accuracy granularity of the exposed value",
        "readOnly": true,
        "type": "number"
      },
      "value": {
        "anyOf": [
          { "type": "array" },
          { "type": "string" },
          { "type": "boolean" },
          { "type": "integer" },
          { "type": "number" },
          { "type": "object" }
        ]
      }
    },
    "$ref": "#/definitions/DoorUpdate"
  }
}
"n" : {
  "description": "Friendly name of the resource",
  "maxLength": 64,
  "readOnly": true,
  "type": "string"
},

"range" : {
  "description": "The valid range for the value Property",
  "items": {
    "anyOf": [
      {
        "type": "number"
      },
      {
        "type": "integer"
      }
    ]
  },
  "maxItems": 2,
  "minItems": 2,
  "readOnly": true,
  "type": "array"
},

"openDuration" : {
  "description": "The time duration the door has been open",
  "readOnly": true,
  "type": "string"
},

"openState" : {
  "description": "The state of the door (open or closed)",
  "enum": [
    "Open",
    "Closed"
  ],
  "readOnly": true,
  "type": "string"
},

"step" : {
  "anyOf": [
    {
      "type": "integer"
    },
    {
      "type": "number"
    }
  ],
  "description": "Step value across the defined range",
  "readOnly": true
},

"id" : {
  "description": "Instance ID of this specific resource",
  "maxLength": 64,
  "readOnly": true,
  "type": "string"}
"openAlarm": {
  "description": "The state of the door open alarm",
  "type": "boolean"
},

"if": {
  "description": "The interface set supported by this resource",
  "items": {
    "enum": [
      "oic.if.baseline",
      "oic.if.ll",
      "oic.if.b",
      "oic.if.lb",
      "oic.if.rw",
      "oic.if.r",
      "oic.if.a",
      "oic.if.s"
    ],
    "type": "string"
  },
  "minItems": 1,
  "readOnly": true,
  "type": "array"
},

"required": ["openState"],

"DoorUpdate": {
  "properties": {
    "rt": {
      "description": "Resource Type",
      "items": {
        "maxLength": 64,
        "type": "string"
      },
      "minItems": 1,
      "readOnly": true,
      "type": "array"
    },
    "precision": {
      "description": "Accuracy granularity of the exposed value",
      "readOnly": true,
      "type": "number"
    },
    "value": {
      "anyOf": [
        { "type": "array" },
        { "type": "string" },
        { "type": "boolean" },
        { "type": "integer" },
        { "type": "number" }]
    }
  }
}
"type": "object",
},
"n": {
  "description": "Friendly name of the resource",
  "maxLength": 64,
  "readOnly": true,
  "type": "string"
},
"range": {
  "description": "The valid range for the value Property",
  "items": [
    "anyOf": [
      { "type": "number" },
      { "type": "integer" }
    ]
  ],
  "maxItems": 2,
  "minItems": 2,
  "readOnly": true,
  "type": "array"
},
"step": {
  "anyOf": [
    { "type": "integer" },
    { "type": "number" }
  ],
  "description": "Step value across the defined range",
  "readOnly": true
},
"id": {
  "description": "Instance ID of this specific resource",
  "maxLength": 64,
  "readOnly": true,
  "type": "string"
},
"openAlarm": {
  "description": "The state of the door open alarm",
  "type": "boolean"
},
"if": {
  "description": "The interface set supported by this resource",
  "items": [
    "oic.if.baseline",
    "oic.if.12",
    "oic.if.b",
### B.46.5 Property Definition

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>step</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>Step value across the defined range</td>
</tr>
<tr>
<td>openState</td>
<td>string</td>
<td>Yes</td>
<td>Read Only</td>
<td>The state of the door (open or closed)</td>
</tr>
<tr>
<td>id</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Instance ID of this specific resource</td>
</tr>
<tr>
<td>value</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>Read Write</td>
<td>The value sensed or actuated by this Resource</td>
</tr>
<tr>
<td>precision</td>
<td>number</td>
<td>No</td>
<td>Read Only</td>
<td>Accuracy granularity of the exposed value</td>
</tr>
<tr>
<td>rt</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>Resource Type</td>
</tr>
<tr>
<td>openAlarm</td>
<td>boolean</td>
<td>No</td>
<td>Read Write</td>
<td>The state of the door open alarm</td>
</tr>
<tr>
<td>openDuration</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>The time duration the door has been open</td>
</tr>
<tr>
<td>if</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>The interface set supported by this resource</td>
</tr>
<tr>
<td>n</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td></td>
</tr>
</tbody>
</table>
### Table 330 The CRUDN operations of the resource

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/DoorResURI</td>
<td></td>
<td>get</td>
<td>post</td>
<td></td>
<td>observe</td>
</tr>
</tbody>
</table>

**B.46.6 CRUDN behaviour**

**B.47 Demand Response Load Control (DRLC).**

**B.47.1 Introduction**

This resource describes any to be applied or currently being applied DRLC signal. The DRType is the ApplianceLoadReductionType defined in Zigbee/HA Smart Energy Profile 2.0. Start is a string containing an ISO8601 encoded start time. The duration value is in minutes. Override indicates whether the consumer has overridden the request (true) or not (false).
B.47.2 Example URI

/DRLCResURI

B.47.3 Resource Type

The resource type (rt) is defined as: ['oic.r.energy.drlc'].

B.47.4 Swagger2.0 Definition

```json
{
  "swagger": "2.0",
  "info": {
    "title": "Demand Response Load Control (DRLC).",
    "version": "v1.1.0-20160519",
    "license": { 
      "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
      "x-description": "Redistribution and use in source and binary forms, with or without
                        modification, are permitted provided that the following conditions are met:
                        1. Redistributions of source code must retain the above copyright notice, this list of conditions and
                           the following disclaimer.
                        2. Redistributions in binary form must reproduce the above
                           copyright notice, this list of conditions and the following disclaimer in the documentation and/or
                           other materials provided with the distribution.
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                           HOWEVER CAUSED AND
                           ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR
                           OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY
                           OF SUCH DAMAGE.
    }
  },
  "schemes": ["http"],
  "consumes": ["application/json"],
  "produces": ["application/json"],
  "paths": {
    "/DRLCResURI" : {
      "get": {
        "description": "This resource describes any to be applied or currently being applied DRLC
                       signal.
                       The DRType is the ApplianceLoadReductionType defined in Zigbee/HA Smart Energy Profile
                       2.0.
                       Start is a string containing an ISO8601 encoded start time.
                       The duration value is in minutes.
                       Override indicates whether the consumer has overridden the request (true) or not
                       (false).
                       Provides the current DRLC action that is being applied.
                       "parameters": [
                         { "$ref": "/#/parameters/interface" }
                       ],
                       "responses": {
                         "200": {
                           "description": ":",
                           "x-example": {
                             "rt": ["oic.r.energy.drlc"],
                             "id": "unique_example_id",
                             "DRType": 1,
                             "start": "2015-01-09T16:45Z",
                             "duration": 10,
                             "override": false
                           }
                         },
                         "schema": { "$ref": "/#/definitions/DRLC" }
                       }
      }
  }
```

"put": {
"description": "Provides the DRLC action to be applied to the device or updates an existing
action.
"parameters": [
{ "$ref": "/#parameters/interface" },
{
"name": "body",
```
"in": "body",
"required": true,
"schema": { "$ref": "#/definitions/DRLC" },
"x-example":
{
  "rt": ["oic.r.energy.drlc"],
  "id": "unique_example_id",
  "DRType": 1,
  "start": "2015-01-09T16:45Z",
  "duration": 10
}
},
"responses": {
  "200": {
    "description": "Indicates that the target DRLC resource was changed. The new resource attributes are provided in the response.
   ",
    "x-example":
    {
      "DRType": 1,
      "id": "unique_example_id",
      "start": "2015-01-09T17:00Z",
      "duration": 15,
      "override": false
    }
  },
  "201": {
    "description": "Indicates successful creation of the DRLC resource with the attributes provided. The response includes the URI of the created resource.\n   ",
    "x-example":
    {
      "ResURI": "/MyDevice/MyDRLCURI"
    }
  }
},
"parameters": {
  "interface": {
    "in": "query",
    "name": "if",
    "type": "string",
    "enum": ["oic.if.b", "oic.if.baseline"]
  }
},
"definitions": {
  "DRLC": {
    "properties": {
      "rt": {
        "description": "Resource Type",
        "items": {
          "maxLength": 64,
          "type": "string"
        },
        "minItems": 1,
        "readOnly": true,
        "type": "array"
      },
      "step": {
        "anyOf": [
          { "type": "integer" }
        ]
      }
    }
  }
}


```
{
    "type": "number"
}
"description": "Step value across the defined range",
"readOnly": true
},
"start": {
    "description": "The start time for the application of DR",
    "type": "string"
},
"precision": {
    "description": "Accuracy granularity of the exposed value",
    "readOnly": true,
    "type": "number"
},
"value": {
    "anyOf": [{
        "type": "array"
    }, {
        "type": "string"
    }, {
        "type": "boolean"
    }, {
        "type": "integer"
    }, {
        "type": "number"
    }, {
        "type": "object"
    }]
},
"description": "The value sensed or actuated by this Resource"},
"n": {
    "description": "Friendly name of the resource",
    "maxLength": 64,
    "readOnly": true,
    "type": "string"
},
"duration": {
    "description": "The duration of the to be applied DR type",
    "type": "integer"
},
"range": {
    "description": "The valid range for the value Property",
    "items": [{
        "anyOf": [{
            "type": "number"
        }, {
            "type": "integer"
        }]
    }
```
"override": {
  "description": "Whether the consumer has overridden the application of DR",
  "type": "boolean"
},

"DRType": {
  "description": "The to be applied demand-response type",
  "type": "integer"
},

"id": {
  "description": "Instance ID of this specific resource",
  "maxLength": 64,
  "readOnly": true,
  "type": "string"
},

"if": {
  "description": "The interface set supported by this resource",
  "items": {
    "enum": [
      "oic.if.baseline",
      "oic.if.ll",
      "oic.if.b",
      "oic.if.lb",
      "oic.if.rw",
      "oic.if.z",
      "oic.if.a",
      "oic.if.s"
    ],
    "type": "string"
  },
  "minItems": 1,
  "readOnly": true,
  "type": "array"
},

"CreateResponse": {
  "properties": {
    "ResURI": {
      "type": "string"
    }
  },
  "required": ["DRType"]
}
}
### B.47.5 Property Definition

#### Table 331 The properties definitions of the resource

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ResURI</td>
<td>string</td>
<td></td>
<td>Read Write</td>
<td></td>
</tr>
<tr>
<td>DRType</td>
<td>integer</td>
<td>Yes</td>
<td>Read Write</td>
<td>The to be applied demand-response type</td>
</tr>
<tr>
<td>override</td>
<td>boolean</td>
<td>No</td>
<td>Read Write</td>
<td>Whether the consumer has overriden the application of DR</td>
</tr>
<tr>
<td>rt</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>Resource Type</td>
</tr>
<tr>
<td>n</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Friendly name of the resource</td>
</tr>
<tr>
<td>value</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>Read Write</td>
<td>The value sensed or actuated by this Resource</td>
</tr>
<tr>
<td>if</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>The interface set supported by this resource</td>
</tr>
<tr>
<td>step</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>Step value across the defined range</td>
</tr>
<tr>
<td>start</td>
<td>string</td>
<td>No</td>
<td>Read Write</td>
<td>The start time for the application of DR</td>
</tr>
<tr>
<td>id</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Instance ID of this specific resource</td>
</tr>
<tr>
<td>precision</td>
<td>number</td>
<td>No</td>
<td>Read Only</td>
<td>Accuracy granularity of the exposed value</td>
</tr>
<tr>
<td>range</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>The valid range for the value Property</td>
</tr>
<tr>
<td>duration</td>
<td>integer</td>
<td>No</td>
<td>Read Write</td>
<td>The duration of the to be applied DR type</td>
</tr>
</tbody>
</table>
B.47.6 CRUDN behaviour

Table 332 The CRUDN operations of the resource

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/DRLCResURI</td>
<td>put</td>
<td>get</td>
<td></td>
<td></td>
<td>observe</td>
</tr>
</tbody>
</table>

B.48 Eco Mode

B.48.1 Introduction

This resource specifies the supported and currently active Eco Mode of a Device.

The Resource uses the existing schema for Mode (oic.r.mode) with a restriction that the population of supported modes and modes Properties is restricted to the set of values given below:

"disabled", "enabled", "notsupported"

The adminforced Property indicates that the value has been set by another party (e.g. via some offboard Smart Energy interaction).

B.48.2 Example URI

/EcomodeResURI

B.48.3 Resource Type

The resource type (rt) is defined as: [oic.r.ecomode].

B.48.4 Swagger2.0 Definition

```json

{  
  "swagger": "2.0",
  "info": {
    "title": "Eco Mode",
    "version": "OCF-v1.0.0-20160620",
    "license": {
      "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
      "x-description": "Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.

THIS SOFTWARE IS PROVIDED BY THE Open Connectivity Foundation, INC. "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR WARRANTIES OF NON-INFRINGEMENT, ARE DISCLAIMED. IN NO EVENT SHALL THE Open Connectivity Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE."
    }
  },
  "schemes": ["http"],
  "consumes": ["application/json"],
  "produces": ["application/json"],
  "paths": {
    "/EcomodeResURI": {
      "get": {
        "description": "This resource specifies the supported and currently active Eco Mode of a Device. The Resource uses the existing schema for Mode (oic.r.mode) with a restriction that the population of supported modes and modes Properties is restricted to the set of values given below: "disabled", "enabled", "notsupported". The adminforced Property indicates that the value has been set by another party (e.g. via some offboard Smart Energy interaction)",
        "parameters": {
          "$ref": "#/parameters/interface"
        },
        "responses": {
          
        }
      }
    }
  }
}
```
"200": {
  "description": "",
  "x-example": {
    "rt": ["oic.r.ecomode"],
    "id": "unique_example_id",
    "supportedModes": ["disabled","enabled"],
    "modes": ["disabled"],
    "adminforced": false
  }
},
"schema": { "$ref": "#/definitions/ecomode" }
}

"post": {
  "description": "",
  "parameters": {
    "$ref": "#/parameters/interface"},
  "parameters": {
    "interface": {
      "in": "query",
      "name": "if",
      "type": "string",
      "enum": ["oic.if.a", "oic.if.baseline"]
    }
  },
  "definitions": {
    "ecomode": {
      "properties": {
        "rt": {
          "description": "Resource Type",
          "items": {
            "maxLength": 64,
            "type": "string"
          },
          "minItems": 1,
          "readOnly": true,
          "type": "array"
        },
        "modes": 
      }
    }
  }
}
"description": "Array of the currently active mode(s)",
"items": {
  "type": "string"
},
"type": "array"
},

"step": {
  "anyOf": [
    { "type": "integer"
    },
    { "type": "number"
  },
  "description": "Step value across the defined range",
  "readOnly": true
},

"precision": {
  "description": "Accuracy granularity of the exposed value",
  "readOnly": true,
  "type": "number"
},

"value": {
  "anyOf": [
    { "type": "array"
    },
    { "type": "string"
    },
    { "type": "boolean"
    },
    { "type": "integer"
    },
    { "type": "number"
    },
    { "type": "object"
  },
  "description": "The value sensed or actuated by this Resource"
},

"n": {
  "description": "Friendly name of the resource",
  "maxLength": 64,
  "readOnly": true,
  "type": "string"
},

"supportedModes": {
  "description": "Array of possible modes the device supports.",
  "items": {
    "type": "string"
  },
  "readOnly": true,
  "type": "array"
}
"range": {
"description": "The valid range for the value Property",
"items": {
"anyOf": [
{
"type": "number"
},
{
"type": "integer"
}
]
},
"maxItems": 2,
"minItems": 2,
"readOnly": true,
"type": "array"
},
"id": {
"description": "Instance ID of this specific resource",
"maxLength": 64,
"readOnly": true,
"type": "string"
},
"adminforced": {
"description": "Indicator that the current mode of operation has been forced by admin action.",
"readOnly": true,
"type": "boolean"
},
"if": {
"description": "The interface set supported by this resource",
"items": {
"enum": [
"oic.if.baseline",
"oic.if.ll",
"oic.if.b",
"oic.if.lb",
"oic.if.rw",
"oic.if.z",
"oic.if.a",
"oic.if.s"
],
"type": "string"
},
"minItems": 1,
"readOnly": true,
"type": "array"
}
},
"type": "object"
"required": ["supportedModes", "modes"]
}
},
"ecomode-update": {
"properties": {
"rt": {
"description": "Resource Type",
"items": {
"maxLength": 64,
"type": "string"
},
"minItems": 1,
"readOnly": true,
  "type": "array"
},
"modes":
  {
    "description": "Desired mode",
    "items": [
      "type": "string"
    ],
    "type": "array"
  },
"precision":
  {
    "description": "Accuracy granularity of the exposed value",
    "readOnly": true,
    "type": "number"
  },
"value":
  {
    "anyOf": [
      {
        "type": "array"
      },
      {
        "type": "string"
      },
      {
        "type": "boolean"
      },
      {
        "type": "integer"
      },
      {
        "type": "number"
      },
      {
        "type": "object"
      },
    ],
    "description": "The value sensed or actuated by this Resource"
  },
"n":
  {
    "description": "Friendly name of the resource",
    "maxLength": 64,
    "readOnly": true,
    "type": "string"
  },
"range":
  {
    "description": "The valid range for the value Property",
    "items": {
      "anyOf": [
        {
          "type": "number"
        },
        {
          "type": "integer"
        }
      ],
      "maxItems": 2,
      "minItems": 2,
      "readOnly": true,
      "type": "array"
    }
  }
}
B.48.5 Property Definition

Table 333 The properties definitions of the resource

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>n</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Friendly name of the resource</td>
</tr>
<tr>
<td>value</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>Read Write</td>
<td>The value sensed or actuated by this Resource</td>
</tr>
<tr>
<td>modes</td>
<td>array: see schema</td>
<td>Yes</td>
<td>Read Write</td>
<td>Desired mode</td>
</tr>
<tr>
<td>Property</td>
<td>Type</td>
<td>Access</td>
<td>Description</td>
<td></td>
</tr>
<tr>
<td>--------------</td>
<td>-----------------------</td>
<td>----------</td>
<td>-----------------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>if</td>
<td>array: see schema</td>
<td>No</td>
<td>The interface set supported by this resource</td>
<td></td>
</tr>
<tr>
<td>range</td>
<td>array: see schema</td>
<td>No</td>
<td>The valid range for the value Property</td>
<td></td>
</tr>
<tr>
<td>precision</td>
<td>number</td>
<td>No</td>
<td>Accuracy granularity of the exposed value</td>
<td></td>
</tr>
<tr>
<td>step</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>Step value across the defined range</td>
<td></td>
</tr>
<tr>
<td>rt</td>
<td>array: see schema</td>
<td>No</td>
<td>Resource Type</td>
<td></td>
</tr>
<tr>
<td>id</td>
<td>string</td>
<td>No</td>
<td>Instance ID of this specific resource</td>
<td></td>
</tr>
<tr>
<td>n</td>
<td>string</td>
<td>No</td>
<td>Friendly name of the resource</td>
<td></td>
</tr>
<tr>
<td>value</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>The value sensed or actuated by this Resource</td>
<td></td>
</tr>
<tr>
<td>modes</td>
<td>array: see schema</td>
<td>Yes</td>
<td>Array of the currently active mode(s)</td>
<td></td>
</tr>
<tr>
<td>supportedModes</td>
<td>array: see schema</td>
<td>Yes</td>
<td>Array of possible modes the device supports.</td>
<td></td>
</tr>
<tr>
<td>if</td>
<td>array: see schema</td>
<td>No</td>
<td>The interface set supported by this resource</td>
<td></td>
</tr>
<tr>
<td>range</td>
<td>array: see schema</td>
<td>No</td>
<td>The valid range for the value Property</td>
<td></td>
</tr>
<tr>
<td>precision</td>
<td>number</td>
<td>No</td>
<td>Accuracy granularity of the exposed value</td>
<td></td>
</tr>
<tr>
<td>adminforced</td>
<td>boolean</td>
<td>No</td>
<td>Indicator that the current mode of operation has</td>
<td></td>
</tr>
</tbody>
</table>
Table 334 The CRUDN operations of the resource

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/EcomodeResURI</td>
<td>get</td>
<td>post</td>
<td></td>
<td></td>
<td>observe</td>
</tr>
<tr>
<td>/EnergyResURI</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

B.49 Energy

B.49.1 Introduction

This resource describes the attributes associated with electrical energy. This can be used for either rated (read-only), desired (read-write) or measured (read-only) energy. The voltage is in Volts (V), current in Amps (A), and frequency in Hertz (Hz).

B.49.2 Example URI

/EnergyResURI

B.49.3 Resource Type

The resource type (rt) is defined as: ['oic.r.energy.electrical'].

B.49.4 Swagger2.0 Definition

```json
{
  "swagger": "2.0",
  "info": {
    "title": "Energy",
    "version": "v1.1.0-20170815",
    "license": {
      "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
      "x-description": "Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:
      
      1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.
      
      2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.
      
      THIS SOFTWARE IS PROVIDED BY THE Open Connectivity Foundation, INC. "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR WARRANTIES OF NON-INFRINGEMENT, ARE DISCLAIMED. IN NO EVENT SHALL THE Open Connectivity Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.""
    }
  },
  "schemes": ["http"],
  "consumes": ["application/json"],
  "produces": ["application/json"],
  "paths": {

```
"/EnergyResURI": {
  "get": {
    "description": "This resource describes the attributes associated with electrical energy. This can be used for either rated (read-only), desired (read-write) or measured (read-only) energy. The voltage is in Volts (V), current in Amps (A), and frequency in Hertz (Hz). Retrieves the current energy. \n",
    "parameters": [
      {"$ref": "/parameters/interface-all"}
    ],
    "responses": {
      "200": {
        "description": "",
        "x-example": {
          "rt": ["oic.r.energy.electrical"],
          "id": "unique_example_id",
          "voltage": 120.0,
          "current": 5.0,
          "frequency": 60.0
        }
      }
    },
    "schema": { "$ref": "/definitions/Energy" }
  }
},
"post": {
  "description": "Sets the desired energy values\\n",
  "parameters": {
    {"$ref": "/parameters/interface-update"},
    {
      "name": "body",
      "in": "body",
      "required": true,
      "schema": { "$ref": "/definitions/EnergyUpdate" },
      "x-example": {
        "id": "unique_example_id",
        "desiredvoltage": 130.0,
        "desiredcurrent": 6.0
      }
    }
  },
  "responses": {
    "200": {
      "description": "",
      "x-example": {
        "id": "unique_example_id",
        "desiredvoltage": 130.0,
        "desiredcurrent": 6.0
      }
    }
  }
},
"parameters": {
  "interface-update" : {
    "in" : "query",
    "name" : "if",
    "type" : "string",
    "enum" : ["oic.if.rw", "oic.if.baseline"]
  },
  "interface-all" : {
    "in" : "query",
    "name" : "if",
    "type" : "string",
    "enum" : ["oic.if.r", "oic.if.rw", "oic.if.s", "oic.if.baseline"]
  }
},
"definitions": {
"Energy" : {
  "properties": {
    "rt": {
      "description": "Resource Type",
      "items": {
        "maxLength": 64,
        "type": "string"
      },
      "minItems": 1,
      "readOnly": true,
      "type": "array"
    },
    "precision": {
      "description": "Accuracy granularity of the exposed value",
      "readOnly": true,
      "type": "number"
    },
    "value": {
      "anyOf": [
        { "type": "array" },
        { "type": "string" },
        { "type": "boolean" },
        { "type": "integer" },
        { "type": "number" },
        { "type": "object" }
      ],
      "description": "The value sensed or actuated by this Resource"
    },
    "desiredCurrent": {
      "description": "The desired electric current in Amps (A).",
      "type": "number"
    },
    "current": {
      "description": "The electric current in Amps (A).",
      "readOnly": true,
      "type": "number"
    },
    "range": {
      "description": "The valid range for the value Property",
      "items": {
        "anyOf": [
          { "type": "number" },
          { "type": "integer" }
        ]
      }
    }
  }
}
},
   "maxItems": 2,
   "minItems": 2,
   "readOnly": true,
   "type": "array"
],
"frequency": {
   "description": "The electric frequency in Hertz (Hz).",
   "readOnly": true,
   "type": "number"
},
"voltage": {
   "description": "The electric voltage in Volts (V).",
   "readOnly": true,
   "type": "number"
},
"step": {
   "anyOf": [
      {
         "type": "integer"
      },
      {
         "type": "number"
      }
   ],
   "description": "Step value across the defined range",
   "readOnly": true
},
"n": {
   "description": "Friendly name of the resource",
   "maxLength": 64,
   "readOnly": true,
   "type": "string"
},
"desiredfrequency": {
   "description": "The desired electric frequency in Hertz (Hz).",
   "type": "number"
},
"id": {
   "description": "Instance ID of this specific resource",
   "maxLength": 64,
   "readOnly": true,
   "type": "string"
},
"desiredvoltage": {
   "description": "The desired electric voltage in Volts (V).",
   "type": "number"
},
"if": {
   "description": "The interface set supported by this resource",
   "items": {
      "enum": [
         "oic.if.baseline",
         "oic.if.ll",
         "oic.if.b",
         "oic.if.h"
"rt": {
  "description": "Resource Type",
  "items": {
    "maxLength": 64,
    "type": "string"
  },
  "minItems": 1,
  "readOnly": true,
  "type": "array"
},

"precision": {
  "description": "Accuracy granularity of the exposed value",
  "readOnly": true,
  "type": "number"
},

"value": {
  "anyOf": [
    { "type": "array" },
    { "type": "string" },
    { "type": "boolean" },
    { "type": "integer" },
    { "type": "number" },
    { "type": "object" },
    { "type": "object" }
  ],
  "description": "The value sensed or actuated by this Resource"
},

"n": {
  "description": "Friendly name of the resource",
  "maxLength": 64,
  "readOnly": true,
  "type": "string"
}
"range": {
  "description": "The valid range for the value Property",
  "items": {
    "anyOf": [
      { "type": "number" },
      { "type": "integer" }
    ]
  },
  "maxItems": 2,
  "minItems": 2,
  "readOnly": true,
  "type": "array"
},

"step": {
  "anyOf": [
    { "type": "integer" },
    { "type": "number" }
  ],
  "description": "Step value across the defined range",
  "readOnly": true
},

"desiredcurrent": {
  "description": "The desired electric current in Amps (A).",
  "type": "number"
},

"desiredfrequency": {
  "description": "The desired electric frequency in Hertz (Hz).",
  "type": "number"
},

"id": {
  "description": "Instance ID of this specific resource",
  "maxLength": 64,
  "readOnly": true,
  "type": "string"
},

"desiredvoltage": {
  "description": "The desired electric voltage in Volts (V).",
  "type": "number"
},

"if": {
  "description": "The interface set supported by this resource",
  "items": {
    "enum": [
      "oic.if.baseline",
      "oic.if.ll",
      "oic.if.b",
      "oic.if.lb",
      "oic.if.rw",
      "oic.if.r"
    ]
  },
B.49.5 Property Definition

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>desiredfrequency</td>
<td>number</td>
<td>Yes</td>
<td>Read Write</td>
<td>The desired electric frequency in Hertz (Hz).</td>
</tr>
<tr>
<td>value</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>Read Write</td>
<td>The value sensed or actuated by this Resource</td>
</tr>
<tr>
<td>precision</td>
<td>number</td>
<td>No</td>
<td>Read Only</td>
<td>Accuracy granularity of the exposed value</td>
</tr>
<tr>
<td>desiredvoltage</td>
<td>number</td>
<td>No</td>
<td>Read Write</td>
<td>The desired electric voltage in Volts (V).</td>
</tr>
<tr>
<td>range</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>The valid range for the value Property</td>
</tr>
<tr>
<td>Property</td>
<td>Type</td>
<td>Read/Write</td>
<td>Description</td>
<td></td>
</tr>
<tr>
<td>------------</td>
<td>-----------------------</td>
<td>------------</td>
<td>----------------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>step</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>Step value across the defined range</td>
</tr>
<tr>
<td>rt</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>Resource Type</td>
</tr>
<tr>
<td>desiredcurrent</td>
<td>number</td>
<td>No</td>
<td>Read Write</td>
<td>The desired electric current in Amps (A).</td>
</tr>
<tr>
<td>n</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Friendly name of the resource</td>
</tr>
<tr>
<td>if</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>The interface set supported by this resource</td>
</tr>
<tr>
<td>id</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Instance ID of this specific resource</td>
</tr>
<tr>
<td>value</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>Read Write</td>
<td>The value sensed or actuated by this Resource</td>
</tr>
<tr>
<td>desiredfrequency</td>
<td>number</td>
<td>No</td>
<td>Read Write</td>
<td>The desired electric frequency in Hertz (Hz).</td>
</tr>
<tr>
<td>frequency</td>
<td>number</td>
<td>Yes</td>
<td>Read Only</td>
<td>The electric frequency in Hertz (Hz).</td>
</tr>
<tr>
<td>voltage</td>
<td>number</td>
<td>Yes</td>
<td>Read Only</td>
<td>The electric voltage in Volts (V).</td>
</tr>
<tr>
<td>range</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>The valid range for the value Property</td>
</tr>
<tr>
<td>n</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Friendly name of the resource</td>
</tr>
<tr>
<td>desiredcurrent</td>
<td>number</td>
<td>No</td>
<td>Read Write</td>
<td>The desired electric current in Amps (A).</td>
</tr>
<tr>
<td>if</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>The interface set supported by this resource</td>
</tr>
<tr>
<td>precision</td>
<td>number</td>
<td>No</td>
<td>Read Only</td>
<td></td>
</tr>
</tbody>
</table>
### B.50 Energy Consumption

#### B.50.1 Introduction
This resource describes the energy consumed by the device since power up (the energy value is in Watt Hours [Wh]) and the instantaneous power draw of the device (the power value is in Watts [W]) at the time the resource was queried.

The power value is in Watts [W].

The energy value is in Watt Hours [Wh].

#### B.50.2 Example URI
/`EnergyConsumptionResURI`

#### B.50.3 Resource Type
The resource type (rt) is defined as: ['oic.r.energy.consumption'].

#### B.50.4 Swagger2.0 Definition

```json
{
    "swagger": "2.0",
    "info": {
        "title": "Energy Consumption",
        "version": "v1.1.0-20160519",
        "license": {
            "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
            "x-description": "Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

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```
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Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL,
EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS
OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND
ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR
OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY
OF SUCH DAMAGE.

"schemes": ["http"],
"consumes": ["application/json"],
"produces": ["application/json"],
"paths": {
  "/EnergyConsumptionResURI" : {
    "get": {
      "description": "This resource describes the energy consumed by the device since power up
      (the energy value is in Watt Hours [Wh]) and the instantaneous power draw of the device (the
      power value is in Watts [W]) at the time the resource was queried. The energy value is in Watt
      Hours [Wh]. It provides the current power draw and cumulative
      energy usage."
    },
    "parameters": [],
    "responses": {
      "200": {
        "description": "",
        "x-example": {
          "rt": ["oic.r.energy.consumption"],
          "id": "unique_example_id",
          "power": 2000.1,
          "energy": 3500.4
        }
      }
    },
    "parameters": {
      "interface" : {
        "in": "query",
        "name": "if",
        "type": "string",
        "enum": ["oic.if.s", "oic.if.baseline"]
      }
    },
    "definitions": {
      "Consumption" : {
        "properties": {
          "rt": {
            "description": "Resource Type",
            "items": {
              "maxLength": 64,
              "type": "string"
            },
            "minItems": 1,
            "readOnly": true,
            "type": "array"
          },
          "power": {
            "description": "Instantaneous Power",
            "readOnly": true,
            "type": "number"
          }
        }
      }
    }
  }
},
"parameters": {
  "interface" : {
    "in": "query",
    "name": "if",
    "type": "string",
    "enum": ["oic.if.s", "oic.if.baseline"]
  }
},
"definitions": {
  "Consumption" : {
    "properties": {
      "rt": {
        "description": "Resource Type",
        "items": {
          "maxLength": 64,
          "type": "string"
        },
        "minItems": 1,
        "readOnly": true,
        "type": "array"
      },
      "power": {
        "description": "Instantaneous Power",
        "readOnly": true,
        "type": "number"
      }
    }
  }
}
"energy": {
  "description": "Energy consumed",
  "readOnly": true,
  "type": "number"
},

"precision": {
  "description": "Accuracy granularity of the exposed value",
  "readOnly": true,
  "type": "number"
},

"value": {
  "anyOf": [
    {
      "type": "array"
    },
    {
      "type": "string"
    },
    {
      "type": "boolean"
    },
    {
      "type": "integer"
    },
    {
      "type": "number"
    },
    {
      "type": "object"
    }
  ],
  "description": "The value sensed or actuated by this Resource"
},

"n": {
  "description": "Friendly name of the resource",
  "maxLength": 64,
  "readOnly": true,
  "type": "string"
},

"range": {
  "description": "The valid range for the value Property",
  "items": [
    "anyOf": [
      {
        "type": "number"
      },
      {
        "type": "integer"
      }
    ]
  ],
  "maxItems": 2,
  "minItems": 2,
  "readOnly": true,
  "type": "array"
},

"step": {
  "anyOf": ["array"]
}
B.50.5 Property Definition

Table 337 The properties definitions of the resource

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>value</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>Read Write</td>
<td>The value sensed or actuated by this Resource</td>
</tr>
<tr>
<td>step</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>Step value across the defined range</td>
</tr>
<tr>
<td>rt</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>Resource Type</td>
</tr>
<tr>
<td>n</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Friendly name of the resource</td>
</tr>
<tr>
<td>Property</td>
<td>Type</td>
<td>Read/Write</td>
<td>Description</td>
<td></td>
</tr>
<tr>
<td>-----------</td>
<td>--------------</td>
<td>------------</td>
<td>-----------------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>range</td>
<td>array: see</td>
<td>No</td>
<td>The valid range for the value Property</td>
<td></td>
</tr>
<tr>
<td></td>
<td>schema</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>power</td>
<td>number</td>
<td>Yes</td>
<td>Instantaneous Power</td>
<td></td>
</tr>
<tr>
<td>id</td>
<td>string</td>
<td>No</td>
<td>Instance ID of this specific resource</td>
<td></td>
</tr>
<tr>
<td>if</td>
<td>array: see</td>
<td>No</td>
<td>The interface set supported by this resource</td>
<td></td>
</tr>
<tr>
<td></td>
<td>schema</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>energy</td>
<td>number</td>
<td>Yes</td>
<td>Energy consumed</td>
<td></td>
</tr>
<tr>
<td>precision</td>
<td>number</td>
<td>No</td>
<td>Accuracy granularity of the exposed value</td>
<td></td>
</tr>
</tbody>
</table>

Table 338 The CRUDN operations of the resource

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/EnergyConsumptionResURI</td>
<td></td>
<td>get</td>
<td></td>
<td></td>
<td>observe</td>
</tr>
</tbody>
</table>

B.50.6 CRUDN behaviour

B.51 Energy Generation

B.51.1 Introduction

This resource describes the attributes associated with energy generation.

energygenerated is a number that provides the energy generated in Watt-hour(Wh).

B.51.2 Example URI

/EnergyGenerationResURI

B.51.3 Resource Type

The resource type (rt) is defined as: ['oic.r.energy.generation'].

B.51.4 Swagger2.0 Definition

```json
{
    "swagger": "2.0",
    "info": {
        "title": "Energy Generation",
        "version": "v1.1.0-20170815",
        "license": {
            "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
            "x-description": "Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions are met:
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        }
    }
}
```
"schemes": ["http"],
"consumes": ["application/json"],
"produces": ["application/json"],
"paths": {
"/EnergyGenerationResURI": {
"get": {
"description": "This resource describes the attributes associated with energy
generation. energygenerated is a number that provides the energy generated in Watt-
hour (Wh). Retrieves the current energy generation.",
"parameters": [
{"$ref": "/#parameters/interface"}
],
"responses": {
"200": {
"description": "",
"x-example": {
"rt": ["oic.r.energy.generation"],
"id": "unique_example_id",
"energygenerated": 3000.00
}
}
},
"schema": { "$ref": "/#definitions/EnergyGeneration" } }
},
"parameters": {
"interface": {
"in": "query",
"name": "if",
"type": "string",
"enum": ["oic.if.s", "oic.if.baseline"]
}
},
"definitions": {
"EnergyGeneration": {
"properties": {
"rt": {
"description": "Resource Type",
"items": {
"maxLength": 64,
"type": "string"
},
"minItems": 1,
"readOnly": true,
"type": "array"
},
"energygenerated": {
"description": "The energy generated in Watt-hour (Wh).",
"readOnly": true,
"type": "number"
},
"precision": {
"description": "Accuracy granularity of the exposed value",
"readOnly": true,
"type": "number"
}
"value": {
  "anyOf": [
    {
      "type": "array"
    },
    {
      "type": "string"
    },
    {
      "type": "boolean"
    },
    {
      "type": "integer"
    },
    {
      "type": "number"
    },
    {
      "type": "object"
    }
  ],
  "description": "The value sensed or actuated by this Resource"
},
"n": {
  "description": "Friendly name of the resource",
  "maxLength": 64,
  "readOnly": true,
  "type": "string"
},
"range": {
  "description": "The valid range for the value Property",
  "items": {
    "anyOf": [
      {
        "type": "number"
      },
      {
        "type": "integer"
      }
    ],
    "description": "Step value across the defined range",
    "readOnly": true
  }
},
"id": {
  "description": "Instance ID of this specific resource"
B.51.5 Property Definition

Table 339 The properties definitions of the resource

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>value</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>Read Write</td>
<td>The value sensed or actuated by this Resource</td>
</tr>
<tr>
<td>precision</td>
<td>number</td>
<td>No</td>
<td>Read Only</td>
<td>Accuracy granularity of the exposed value</td>
</tr>
<tr>
<td>n</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Friendly name of the resource</td>
</tr>
<tr>
<td>energogenerated</td>
<td>number</td>
<td>Yes</td>
<td>Read Only</td>
<td>The energy generated in Watt-hour(Wh).</td>
</tr>
<tr>
<td>range</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>The valid range for the value Property</td>
</tr>
<tr>
<td>id</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Instance ID of this specific resource</td>
</tr>
</tbody>
</table>
rt | array: see schema | No | Read Only | Resource Type
---|-----------------|---|-----------|-------------------
step | multiple types: see schema | No | Read Only | Step value across the defined range
if | array: see schema | No | Read Only | The interface set supported by this resource

### B.51.6 CRUDN behaviour

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/EnergyGenerationResURI</td>
<td>get</td>
<td></td>
<td></td>
<td></td>
<td>observe</td>
</tr>
</tbody>
</table>

### B.52 Energy Overload/Circuit Breaker

#### B.52.1 Introduction

This resource describes whether an energy overload detector/circuit breaker is currently tripped.

The value is a boolean.

A value of ‘true’ means that energy overload has been tripped.

A value of ‘false’ means that energy overload has not been tripped.

#### B.52.2 Example URI

/ EnergyOverloadResURI

#### B.52.3 Resource Type

The resource type (rt) is defined as: ['oic.r.energy.overload'].

#### B.52.4 Swagger2.0 Definition

```json
{
  "swagger": "2.0",
  "info": {
    "title": "Energy Overload/Circuit Breaker",
    "version": "v1.1.0-20160519",
    "license": {
      "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
      "x-description": "Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:
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    }
  },
  "schemes": ["http"],
  "consumes": ["application/json"],
  "produces": ["application/json"],
  "paths": {
    ...
  }
}
```
"/EnergyOverloadResURI" : {
    "get": {
        "description": "This resource describes whether an energy overload detector/circuit breaker is currently tripped. The value is a boolean. A value of 'true' means that energy overload has been tripped. A value of 'false' means that energy overload has not been tripped."
    },
    "parameters": [
    {
        "$ref": "#/parameters/interface"
    },
    "responses": {
        "200": {
            "description": "",
            "x-example": {
                "rt": ["oic.r.energy.overload"],
                "id": "unique_example_id",
                "value": true
            }
        }
    },
    "parameters": {
        "interface": {
            "in": "query",
            "name": "if",
            "type": "string",
            "enum": ["oic.if.s", "oic.if.baseline"]
        }
    },
    "definitions": {
        "EnergyOverload": {
            "properties": {
                "rt": {
                    "description": "Resource Type",
                    "items": {
                        "maxLength": 64,
                        "type": "string"
                    },
                    "minItems": 1,
                    "readOnly": true,
                    "type": "array"
                },
                "precision": {
                    "description": "Accuracy granularity of the exposed value",
                    "readOnly": true,
                    "type": "number"
                },
                "value": {
                    "description": "true = sensed, false = not sensed.",
                    "readOnly": true,
                    "type": "boolean"
                },
                "n": {
                    "description": "Friendly name of the resource",
                    "maxLength": 64,
                    "readOnly": true,
                    "type": "string"
                }
            }
        }
    }
}
"description": "The valid range for the value Property",
"items": [
  "anyOf": [
    
    "type": "number"
  ],
  
  "type": "integer"
]
},
"maxItems": 2,
"minItems": 2,
"readOnly": true,
"type": "array"
],
"step": {
  "anyOf": [
    
    "type": "integer"
  ],
  
  "type": "number"
]
",
"description": "Step value across the defined range",
"readOnly": true
},
"id": {
  "description": "Instance ID of this specific resource",
  "maxLength": 64,
  "readOnly": true,
  "type": "string"
},
"if": {
  "description": "The interface set supported by this resource",
  "items": {
    "enum": [
      "oic.if.baseline",
      "oic.if.ll",
      "oic.if.b",
      "oic.if.lb",
      "oic.if.rw",
      "oic.if.r",
      "oic.if.a",
      "oic.if.s"
    ],
    "type": "string"
  },
  "minItems": 1,
  "readOnly": true,
  "type": "array"
}
],
"type": "object"
}"required": ["value"]
}
B.52.5 Property Definition

Table 341 The properties definitions of the resource

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>step</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>Step value across the defined range</td>
</tr>
<tr>
<td>precision</td>
<td>number</td>
<td>No</td>
<td>Read Only</td>
<td>Accuracy granularity of the exposed value</td>
</tr>
<tr>
<td>range</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>The valid range for the value Property</td>
</tr>
<tr>
<td>if</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>The interface set supported by this resource</td>
</tr>
<tr>
<td>id</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Instance ID of this specific resource</td>
</tr>
<tr>
<td>rt</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>Resource Type</td>
</tr>
<tr>
<td>n</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Friendly name of the resource</td>
</tr>
<tr>
<td>value</td>
<td>boolean</td>
<td>Yes</td>
<td>Read Only</td>
<td>true = sensed, false = not sensed.</td>
</tr>
</tbody>
</table>

B.52.6 CRUDN behaviour

Table 342 The CRUDN operations of the resource

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/EnergyOverloadResURI</td>
<td>get</td>
<td></td>
<td></td>
<td></td>
<td>observe</td>
</tr>
</tbody>
</table>

B.53 Energy Usage

B.53.1 Introduction

This resource describes a cumulative time-based energy usage query. The resource is a composite resource being made up as a collection of:

TimePeriod Resource
EnergyConsumption Resource

B.53.2 Example URI

/EnergyUsageResURI

B.53.3 Resource Type

The resource type (rt) is defined as: ['oic.r.energy.usage'].

B.53.4  Swagger2.0 Definition

```json
{
  "swagger": "2.0",
  "info": {
    "title": "Energy Usage",
    "version": "v1.1.0-20160519",
    "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
    "license": {
      "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
      "x-description": "Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:
        1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
        2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.

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"
    }
  },
  "schemes": ["http"],
  "consumes": ["application/json"],
  "produces": ["application/json"],
  "paths": {
    "/EnergyUsageResURI" : {
      "get": {
        "description": "This resource describes a cumulative time-based energy usage query.
The resource is a composite resource being made up as a collection of:
  TimePeriod Resource
  EnergyConsumption Resource
Retrieves the energy usage information as a composite of consumption over time.
",
        "parameters": [{$ref: "/#parameters/interface"}
          ],
        "responses": {
          "200": {
            "description": ",
            "x-example": {
              "rt": ["oic.r.energy.usage"],
              "id": "unique_example_id",
              "resources": [
                {
                  "href": "/TimeIntervalResURI",
                  "rel": "contains",
                  "rt": ["oic.r.time.period"],
                  "if": ["oic.if.a"],
                  "eps": [{"ep": "coaps://[fe80::b1d6]:1122"}]
                },
                {
                  "href": "/EnergyConsumptionResURI",
                  "rel": "contains",
                  "rt": ["oic.r.energy.consumption"],
                  "if": ["oic.if.s"],
                  "eps": [{"ep": "coaps://[fe80::b1d6]:1122"}]
                }
              ],
            "schema": { $ref: "/#definitions/Usage " }
          }
        },
        "parameters": {
```
"interface": {
  "in": "query",
  "name": "if",
  "type": "string",
  "enum": ["oic.if.ll", "oic.if.b", "oic.if.baseline"]
},
"definitions": {
  "Usage": {
    "properties": {
      "rt": {
        "description": "Resource Type",
        "items": {
          "maxLength": 64,
          "type": "string"
        },
        "minItems": 1,
        "readOnly": true,
        "type": "array"
      },
      "precision": {
        "description": "Accuracy granularity of the exposed value",
        "readOnly": true,
        "type": "number"
      },
      "value": {
        "anyOf": [
          {
            "type": "array"
          },
          {
            "type": "string"
          },
          {
            "type": "boolean"
          },
          {
            "type": "integer"
          },
          {
            "type": "number"
          },
          {
            "type": "object"
          }
        ],
        "description": "The value sensed or actuated by this Resource"
      },
      "n": {
        "description": "Friendly name of the resource",
        "maxLength": 64,
        "readOnly": true,
        "type": "string"
      },
      "range": {
        "description": "The valid range for the value Property",
        "items": {
          "anyOf": [
            {
              "type": "number"
            }
          ],
          "type": "number"
        }
      }
    }
  }
},
"properties": {
  "rt": {
    "description": "Resource Type",
    "items": {
      "maxLength": 64,
      "type": "string"
    },
    "minItems": 1,
    "readOnly": true,
    "type": "array"
  },
  "precision": {
    "description": "Accuracy granularity of the exposed value",
    "readOnly": true,
    "type": "number"
  },
  "value": {
    "anyOf": [
      {
        "type": "array"
      },
      {
        "type": "string"
      },
      {
        "type": "boolean"
      },
      {
        "type": "integer"
      },
      {
        "type": "number"
      },
      {
        "type": "object"
      }
    ],
    "description": "The value sensed or actuated by this Resource"
  },
  "n": {
    "description": "Friendly name of the resource",
    "maxLength": 64,
    "readOnly": true,
    "type": "string"
  },
  "range": {
    "description": "The valid range for the value Property",
    "items": {
      "anyOf": [
        {
          "type": "number"
        }
      ],
      "type": "number"
    }
  }
}
"type": "integer"
  },
  "maxItems": 2,
  "minItems": 2,
  "readOnly": true,
  "type": "array"
},

"step": {
  "anyOf": [
    {
      "type": "integer"
    },
    {
      "type": "number"
    }
  ],
  "description": "Step value across the defined range",
  "readOnly": true
},

"id": {
  "description": "Instance ID of this specific resource",
  "maxLength": 64,
  "readOnly": true,
  "type": "string"
},

"resources": {
  "items": {
    "properties": {
      "anchor": {
        "description": "This is used to override the context URI e.g. override the URI of
the containing collection",
        "format": "uri",
        "maxLength": 256,
        "type": "string"
      },
      "di": {
        "description": "An identifier formatted according to IETF RFC 4122",
        "pattern": "^[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{12}$",
        "type": "string"
      },
      "eps": {
        "description": "the Endpoint information of the target Resource",
        "items": {
          "properties": {
            "ep": {
              "description": "URI with Transport Protocol Suites + Endpoint Locator as
specified in 10.2.1",
              "format": "uri",
              "type": "string"
            },
            "pri": {
              "description": "The priority among multiple Endpoints as specified in
10.2.3",
              "minimum": 1,
              "type": "integer"
            }
          },
          "type": "object"
        },
        "type": "array"
      },
      "href": {
      }"
"description": "This is the target URI, it can be specified as a Relative Reference or fully-qualified URI. Relative Reference should be used along with the di parameter to make it unique. ",

"format": "uri",
"maxLength": 256,
"type": "string"
},

"if": {
"description": "The interface set supported by this resource",
"items": {
"enum": [
"oic.if.baseline",
"oic.if.ll",
"oic.if.b",
"oic.if.rw",
"oic.if.r",
"oic.if.a",
"oic.if.s"
],
"type": "string"
},

"minItems": 1,
"type": "array"
},

"ins": {
"description": "The instance identifier for this web link in an array of web links - used in collections",

"oneOf": [

"description": "An ordinal number that is not repeated - must be unique in the collection context",
"type": "integer"
],

"description": "Any unique string including a URI",
"format": "uri",
"maxLength": 256,
"type": "string"
],

"description": "An identifier formatted according to IETF RFC 4122.",
"pattern": "^[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{12}$",
"type": "string"
},

"p": {
"description": "Specifies the framework policies on the Resource referenced by the target URI",

"properties": {
"bm": {
"description": "Specifies the framework policies on the Resource referenced by the target URI for e.g. observable and discoverable",
"type": "integer"
},

"required": [
"bm"
]
},

"type": "object"
},

"rel": {
"description": "The relation of the target URI referenced by the link to the context URI",

"oneOf": [

"]
"default": [
"hosts"
]
},

"items": {

"type": "string"
"maxLength": 64,
"type": "string"
},
"minItems": 1,
"type": "array"
],
"default": "hosts",
"maxLength": 64,
"type": "string"
}
}
"rt": {
"description": "Resource Type",
"items": {
"maxLength": 64,
"type": "string"
},
"minItems": 1,
"type": "array"
},
"title": {
"description": "A title for the link relation. Can be used by the UI to provide a context",
"maxLength": 64,
"type": "string"
},
"type": {
"default": "application/cbor",
"description": "A hint at the representation of the resource referenced by the target URI. This represents the media types that are used for both accepting and emitting",
"items": {
"maxLength": 64,
"type": "string"
},
"minItems": 1,
"type": "array"
}
},
"required": [
"href",
"rt",
"if"
],
"type": "object"
},
"maxItems": 2,
"minItems": 2,
"type": "array"
},
"if": {
"description": "The interface set supported by this resource",
"items": {
"enum": [
"oic.if.baseline",
"oic.if.ll",
"oic.if.b",
"oic.if.lb",
"oic.if.rw",
"oic.if.r",
"oic.if.a",
"oic.if.s"
],
"type": "string"
},
"minItems": 1,
"readOnly": true,
"type": "array"
B.53.5 Property Definition

Table 343 The properties definitions of the resource

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>precision</td>
<td>number</td>
<td>No</td>
<td>Read Only</td>
<td>Accuracy granularity of the exposed value</td>
</tr>
<tr>
<td>resources</td>
<td>array: schema</td>
<td>see</td>
<td>Yes</td>
<td>Read Write</td>
</tr>
<tr>
<td>range</td>
<td>array: schema</td>
<td>see</td>
<td>No</td>
<td>Read Only</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>The valid range for the value Property</td>
</tr>
<tr>
<td>if</td>
<td>array: schema</td>
<td>see</td>
<td>No</td>
<td>Read Only</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>The interface set supported by this resource</td>
</tr>
<tr>
<td>rt</td>
<td>array: schema</td>
<td>No</td>
<td>Read Only</td>
<td>Resource Type</td>
</tr>
<tr>
<td>step</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>Step value across the defined range</td>
</tr>
<tr>
<td>value</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>Read Write</td>
<td>The value sensed or actuated by this Resource</td>
</tr>
<tr>
<td>id</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Instance ID of this specific resource</td>
</tr>
<tr>
<td>n</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Friendly name of the resource</td>
</tr>
</tbody>
</table>

B.53.6 CRUDN behaviour

Table 344 The CRUDN operations of the resource

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/EnergyUsageResURI</td>
<td></td>
<td>get</td>
<td></td>
<td></td>
<td>observe</td>
</tr>
</tbody>
</table>
B.54 Foaming

B.54.1 Introduction
This resource describes the attributes associated with foaming. The foam strength of the liquid is represented as an integer.

The foam strength is an integer, the range of which may be enforced by the presence of a range Property defined in the baseresource.

B.54.2 Example URI
/FoamingResURI

B.54.3 Resource Type
The resource type (rt) is defined as: ['oic.r.foaming'].

B.54.4 Swagger2.0 Definition

```yaml
{
  "swagger": "2.0",
  "info": {
    "title": "Foaming",
    "version": "v1.1.0-20170815",
    "license": {
      "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
      "x-description": "Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

      1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
      2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.

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    }
  },
  "schemes": ["http"],
  "consumes": ["application/json"],
  "produces": ["application/json"],
  "paths": {
    "/FoamingResURI": {
      "get": {
        "description": "This resource describes the attributes associated with foaming. The foam strength of the liquid is represented as an integer. The foam strength is an integer, the range of which may be enforced by the presence of a range Property defined in the baseresource. Retrieves the state of foaming.",
        "parameters": [{"$ref": "/#/parameters/interface"}],
        "responses": {
          "200": {
            "description": "",
            "x-example": {
              "rt": ["oic.r.foaming"],
              "id": "unique_example_id",
              "foamstrength": 50,
              "range": [0,100]
            }
          }
        }
      }
    }
  }
}
```

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"parameters": {
   "interface": {
      "in": "query",
      "name": "if",
      "type": "string",
      "enum": ["oic.if.rw", "oic.if.baseline"
   }
},
"definitions": {
   "Foaming": {
      "properties": {
         "rt": {
            "description": "Resource Type",
            "items": {
               "maxLength": 64,
               "type": "string"
            },
            "minItems": 1,
            "readOnly": true,
            "type": "array"
         },
         "foamstrength": {
            "description": "The desired foaminess of the liquid.",
            "type": "integer"
         },
         "precision": {
            "description": "Accuracy granularity of the exposed value",
            "readOnly": true,
            "type": "number"
         },
         "value": {
            "anyOf": [}
```json
{
    "type": "array",
    "items": [
        { "type": "string" },
        { "type": "boolean" },
        { "type": "integer" },
        { "type": "number" },
        { "type": "object" }
    ],
    "description": "The value sensed or actuated by this Resource"}

"n": {
    "description": "Friendly name of the resource",
    "maxLength": 64,
    "readOnly": true,
    "type": "string"}

"range": {
    "description": "The valid range for the value Property",
    "items": [ { "anyOf": [ { "type": "number" }, { "type": "integer" } ] },
        { "type": "number" },
        { "type": "integer" } ],
    "maxItems": 2,
    "minItems": 2,
    "readOnly": true,
    "type": "array"}

"step": {
    "anyOf": [ { "type": "integer" }, { "type": "number" } ],
    "description": "Step value across the defined range",
    "readOnly": true}

"id": {
    "description": "Instance ID of this specific resource",
    "maxLength": 64,
    "readOnly": true,
    "type": "string"}
```
B.54.5 Property Definition

Table 345 The properties definitions of the resource

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>precision</td>
<td>number</td>
<td>No</td>
<td>Read Only</td>
<td>Accuracy granularity of the exposed value</td>
</tr>
<tr>
<td>if</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>The interface set supported by this resource</td>
</tr>
<tr>
<td>value</td>
<td>multiple types:</td>
<td>No</td>
<td>Read Write</td>
<td>The value sensed or actuated by this Resource</td>
</tr>
<tr>
<td></td>
<td>see schema</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>rt</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>Resource Type</td>
</tr>
<tr>
<td>n</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Friendly name of the resource</td>
</tr>
<tr>
<td>range</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>The valid range for the value Property</td>
</tr>
<tr>
<td>step</td>
<td>multiple types:</td>
<td>No</td>
<td>Read Only</td>
<td>Step value across the defined range</td>
</tr>
<tr>
<td></td>
<td>see schema</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>foamstrength</td>
<td>integer</td>
<td>Yes</td>
<td>Read Write</td>
<td></td>
</tr>
</tbody>
</table>
### B.54.6 CRUDN behaviour

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/FoamingResURI</td>
<td>get</td>
<td>post</td>
<td></td>
<td></td>
<td>observe</td>
</tr>
</tbody>
</table>

### B.55 Generic Sensor

#### B.55.1 Introduction

This resource describes whether some value or property or entity has been sensed or not.

The value is a boolean.

A value of 'true' means that the target has been sensed.

A value of 'false' means that the target has not been sensed.

#### B.55.2 Example URI

/GenericSensorResURI

#### B.55.3 Resource Type

The resource type (rt) is defined as: ['oic.r.sensor'].

#### B.55.4 Swagger2.0 Definition

```json
{
    "swagger": "2.0",
    "info": {
        "title": "Generic Sensor",
        "version": "v1.1.0-20160519",
        "license": {
            "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
            "x-description": "Redistribution and use in source and binary forms, with or without
            modification, are permitted provided that the following conditions are met:
            1. Redistributions of source code must retain the above copyright notice, this list of conditions and
            the following disclaimer.
            2. Redistributions in binary form must reproduce the above
            copyright notice, this list of conditions and the following disclaimer in the documentation and/or
            other materials provided with the distribution.
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            Connectivity Foundation, INC. "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
            LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR
            WARRANTIES OF NON-INFRINGEMENT, ARE DISCLAIMED.
            IN NO EVENT SHALL THE Open Connectivity
            Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL,
            EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS
            OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)\n            HOWEVER CAUSED AND
            ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR
            OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY
            OF SUCH DAMAGE.
            ""
    },
    "schemes": ["http"],
    "consumes": ["application/json"],
    "produces": ["application/json"],
    "paths": {
        "/GenericSensorResURI" : {
        "get": {
            "description": "This resource describes whether some value or property or entity has been
            sensed or not.\n            The value is a boolean.\n            A value of 'true' means that the target has been sensed.\n            A value of 'false' means that the target has not been sensed.\
            "
        }
    }
}
```

The desired foaminess of the liquid.

<table>
<thead>
<tr>
<th>id</th>
<th>string</th>
<th>No</th>
<th>Read Only</th>
<th>The desired foaminess of the liquid.</th>
</tr>
</thead>
</table>

Instance ID of this specific resource.
"parameters": [  
  
  ],
  "responses": {  
  "200": {  
  "description": "",  
  "x-example":  
  {  
  "rt": ["oic.r.sensor"],  
  "id": "unique_example_id",  
  "value": true  
  }  
  }  
  },
  "schema": { "$ref": "/#/definitions/Sensor" }  
}  

"parameters": {  
"interface": {  
  "in": "query",  
  "name": "if",  
  "type": "string",  
  "enum": ["oic.if.s", "oic.if.baseline"]  
}  
},

"definitions": {  
"Sensor": {  
  "properties": {  
  "rt": {  
    "description": "Resource Type",  
    "items": {  
    "maxLength": 64,  
    "type": "string"  
  },  
  "minItems": 1,  
  "readOnly": true,  
  "type": "array"  
  },  
  "precision": {  
    "description": "Accuracy granularity of the exposed value",  
    "readOnly": true,  
    "type": "number"  
  },  
  "value": {  
    "description": "true = sensed, false = not sensed.",  
    "readOnly": true,  
    "type": "boolean"  
  },  
  "n": {  
    "description": "Friendly name of the resource",  
    "maxLength": 64,  
    "readOnly": true,  
    "type": "string"  
  },  
  "range": {  
    "description": "The valid range for the value Property",  
    "items": [  
      "anyOf": [  
        "type": "number"  
      ]  
    ]  
  }  
}  
}
B.55.5 Property Definition

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>precision</td>
<td>number</td>
<td>Read Only</td>
<td>Read Only</td>
<td></td>
</tr>
</tbody>
</table>
B.55.6 CRUDN behaviour

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/GenericSensorResURI</td>
<td>get</td>
<td></td>
<td></td>
<td></td>
<td>observe</td>
</tr>
</tbody>
</table>

B.56 Geolocation

B.56.1 Introduction

This resource describes the properties associated with the current geolocation coordinate.

Geolocation is a geolocation coordinate data.
Latitute is a device's current Latitude coordinate (degrees).
Longitude is a device's current Longitude coordinate (degrees).
Altitude is a device's current Altitude position (metres).
Accuracy is the accuracy level of the latitude and longitude coordinates (metres).
AltitudeAccuracy is the accuracy level of the altitude coordinates (metres).
heading is a direction of travel of device (degree).
speed is a device's current velocity (metres per second).

B.56.2 Example URI

/GPositionResURI

B.56.3 Resource Type

The resource type (rt) is defined as: ['oic.r.sensor.geolocation'].

<table>
<thead>
<tr>
<th>rt</th>
<th>array: see schema</th>
<th>Read Only</th>
<th>Resource Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>n</td>
<td>string</td>
<td>Read Only</td>
<td>Friendly name of the resource</td>
</tr>
<tr>
<td>id</td>
<td>string</td>
<td>Read Only</td>
<td>Instance ID of this specific resource</td>
</tr>
<tr>
<td>range</td>
<td>array: see schema</td>
<td>Read Only</td>
<td>The valid range for the value Property</td>
</tr>
<tr>
<td>step</td>
<td>multiple types: see schema</td>
<td>Read Only</td>
<td>Step value across the defined range</td>
</tr>
<tr>
<td>value</td>
<td>boolean</td>
<td>Read Only</td>
<td>true = sensed, false = not sensed.</td>
</tr>
<tr>
<td>if</td>
<td>array: see schema</td>
<td>Read Only</td>
<td>The interface set supported by this resource</td>
</tr>
</tbody>
</table>
B.56.4  Swagger2.0 Definition

```
{
    "swagger": "2.0",
    "info": {
        "title": "Geolocation",
        "version": "v1.1.0-20160519",
        "license": {
            "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
            "x-description": "Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:
1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.
THIS SOFTWARE IS PROVIDED BY THE Open Connectivity Foundation, INC. \"AS IS\" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR WARRANTIES OF NON-INFRINGEMENT, ARE DISCLAIMED. IN NO EVENT SHALL THE Open Connectivity Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE."
        }
    },
    "schemes": ["http"],
    "consumes": ["application/json"],
    "produces": ["application/json"],
    "paths": {
        "/GeolocationResURI" : {
            "get": {
                "description": "This resource describes the properties associated with the current geolocation coordinate.
Geolocation is a geolocation coordinate data.
Latitude is a device's current Latitude coordinate (degrees).
Longitude is a device's current Longitude coordinate (degrees).
Altitude is a device's current Altitude position (metres).
Accuracy is the accuracy level of the Latitude and Longitude coordinates (metres).
AltitudeAccuracy is the accuracy level of the Altitude coordinates (metres).
Heading is a direction of travel of device (degree).
Speed is a device's current velocity (metres per second).
Retrieves the current geolocation coordinates.",
                "parameters": [
                    {"$ref": "#/parameters/interface"}
                ],
                "responses": {
                    "200": {
                        "description": "",
                        "x-example": {
                            "rt": ["oic.r.sensor.geolocation"],
                            "id": "unique_example_id",
                            "latitude": 55.070859,
                            "longitude": -3.60512,
                            "alt": 12.07,
                            "accuracy": 65.0,
                            "altitudeAccuracy": 0.0,
                            "heading": 90.0,
                            "speed": 0.0
                        }
                    }
                ],
                "schema": { "$ref": "#/definitions/Geolocation" }
            }
        },
        "/GeolocationResURI" : {
            "get": {
                "description": "This resource describes the properties associated with the current geolocation coordinate.
Geolocation is a geolocation coordinate data.
Latitude is a device's current Latitude coordinate (degrees).
Longitude is a device's current Longitude coordinate (degrees).
Altitude is a device's current Altitude position (metres).
Accuracy is the accuracy level of the Latitude and Longitude coordinates (metres).
AltitudeAccuracy is the accuracy level of the Altitude coordinates (metres).
Heading is a direction of travel of device (degree).
Speed is a device's current velocity (metres per second).
Retrieves the current geolocation coordinates.",
                "parameters": ["interface"],
                "responses": {
                    "200": {
                        "description": "",
                        "x-example": {
                            "rt": ["oic.r.sensor.geolocation"],
                            "id": "unique_example_id",
                            "latitude": 55.070859,
                            "longitude": -3.60512,
                            "alt": 12.07,
                            "accuracy": 65.0,
                            "altitudeAccuracy": 0.0,
                            "heading": 90.0,
                            "speed": 0.0
                        }
                    }
                ],
                "schema": { "$ref": "#/definitions/Geolocation" }
            }
        }
    }
}
```

"definitions": {
  "Geolocation": {
    "properties": {
      "rt": {
        "description": "Resource Type",
        "items": {
          "maxLength": 64,
          "type": "string"
        },
        "minItems": 1,
        "readOnly": true,
        "type": "array"
      },
      "step": {
        "anyOf": [
          { "type": "integer" },
          { "type": "number" }
        ],
        "description": "Step value across the defined range",
        "readOnly": true
      },
      "precision": {
        "description": "Accuracy granularity of the exposed value",
        "readOnly": true,
        "type": "number"
      },
      "longitude": {
        "description": "Device's current longitude coordinate (degrees)",
        "readOnly": true,
        "type": "number"
      },
      "heading": {
        "description": "Direction of travel of device (degree)",
        "maximum": 360,
        "minimum": 0,
        "readOnly": true,
        "type": "number"
      },
      "range": {
        "description": "The valid range for the value Property",
        "items": {
          "anyOf": [
            { "type": "number" },
            { "type": "integer" }
          ],
          "maxItems": 2,
          "minItems": 2,
          "readOnly": true,
          "type": "array"
        }
      }
    }
  }
}


"n": {
  "description": "Friendly name of the resource",
  "maxLength": 64,
  "readOnly": true,
  "type": "string"
},

"value": {
  "anyOf": [
    { "type": "array" },
    { "type": "string" },
    { "type": "boolean" },
    { "type": "integer" },
    { "type": "number" },
    { "type": "object" }
  ],
  "description": "The value sensed or actuated by this Resource"
},

"latitude": {
  "description": "Device's Current Latitude coordinate (degrees)",
  "readOnly": true,
  "type": "number"
},

"altitudeAccuracy": {
  "description": "The accuracy level of the altitude coordinates (metres)",
  "minimum": 0,
  "readOnly": true,
  "type": "number"
},

"alt": {
  "description": "The current height of the position (metres)",
  "minimum": 0,
  "readOnly": true,
  "type": "number"
},

"accuracy": {
  "description": "The accuracy level of the latitude and longitude coordinates (metres)",
  "minimum": 0,
  "readOnly": true,
  "type": "number"
},

"speed": {
  "description": "Device's current velocity (metres per second)",
  "minimum": 0,
  "readOnly": true,
B.56.5 Property Definition

Table 349 The properties definitions of the resource

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>step</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>Step value across the defined range</td>
</tr>
<tr>
<td>precision</td>
<td>number</td>
<td>No</td>
<td>Read Only</td>
<td>Accuracy granularity of the exposed value</td>
</tr>
<tr>
<td>speed</td>
<td>number</td>
<td>No</td>
<td>Read Only</td>
<td>Device's current velocity (metres per second)</td>
</tr>
<tr>
<td>heading</td>
<td>number</td>
<td>No</td>
<td>Read Only</td>
<td>Direction of travel of device (degree)</td>
</tr>
<tr>
<td>n</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Friendly name of the resource</td>
</tr>
<tr>
<td>accuracy</td>
<td>number</td>
<td>No</td>
<td>Read Only</td>
<td></td>
</tr>
</tbody>
</table>

Note: "type": "number"
### Table 350 The CRUDN operations of the resource

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/GeolocationResURI</td>
<td>get</td>
<td></td>
<td></td>
<td></td>
<td>observe</td>
</tr>
</tbody>
</table>
B.57 Glass Break Sensor

B.57.1 Introduction
This resource describes a glass break sensor. The value is a boolean. A value of 'true' means that glass break has been sensed. A value of 'false' means that glass break not been sensed.

B.57.2 Example URI
/GlassBreakResURI

B.57.3 Resource Type
The resource type (rt) is defined as: ['oic.r.sensor.glassbreak']

B.57.4 Swagger2.0 Definition

```json
{
  "swagger": "2.0",
  "info": {
    "title": "Glass Break Sensor",
    "version": "v1.1.0-20160519",
    "license": {
      "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
      "x-description": "Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:
1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.
THIS SOFTWARE IS PROVIDED BY THE Open Connectivity Foundation, INC. "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR WARRANTIES OF NON-INFRINGEMENT, ARE DISCLAIMED.
IN NO EVENT SHALL THE Open Connectivity Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE."
    }
  },
  "schemes": ["http"],
  "consumes": ["application/json"],
  "produces": ["application/json"],
  "paths": {
    "/GlassBreakResURI": {
      "get": {
        "description": "This resource describes a glass break sensor.
The value is a boolean.
A value of 'true' means that glass break has been sensed.
A value of 'false' means that glass break not been sensed.
",
        "parameters": ["$ref": "/#/parameters/interface"],
        "responses": {
          "200": {
            "description": "",
            "x-example": {
              "rt": ["oic.r.sensor.glassbreak"],
              "id": "unique_example_id",
              "value": true
            }
          }
        }
      }
    }
  }
}
```

Copyright Open Connectivity Foundation, Inc. © 2016-18. All rights Reserved
"parameters": {
  "interface": {
    "in": "query",
    "name": "if",
    "type": "string",
    "enum": ["oic.if.s", "oic.if.baseline"]
  }
},
"definitions": {
  "GlassBreak": {
    "properties": {
      "rt": {
        "description": "Resource Type",
        "items": {
          "maxLength": 64,
          "type": "string"
        },
        "minItems": 1,
        "readOnly": true,
        "type": "array"
      },
      "precision": {
        "description": "Accuracy granularity of the exposed value",
        "readOnly": true,
        "type": "number"
      },
      "value": {
        "description": "true = sensed, false = not sensed.",
        "readOnly": true,
        "type": "boolean"
      },
      "n": {
        "description": "Friendly name of the resource",
        "maxLength": 64,
        "readOnly": true,
        "type": "string"
      },
      "range": {
        "description": "The valid range for the value Property",
        "items": {
          "anyOf": [
            { "type": "number" },
            { "type": "integer" }
          ],
          "maxItems": 2,
          "minItems": 2,
          "readOnly": true,
          "type": "array"
        },
        "step": {
          "anyOf": [
            { "type": "number" },
            { "type": "integer" }
          ],
          "maxItems": 2,
          "minItems": 2,
          "readOnly": true,
          "type": "array"
        }
      }
    }
  }
}
B.57.5 Property Definition

Table 351 The properties definitions of the resource

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>if</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>The interface set supported by this resource</td>
</tr>
<tr>
<td>precision</td>
<td>number</td>
<td>No</td>
<td>Read Only</td>
<td>Accuracy granularity of the exposed value</td>
</tr>
<tr>
<td>rt</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>Resource Type</td>
</tr>
<tr>
<td>range</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>The valid range for the value Property</td>
</tr>
<tr>
<td>id</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td></td>
</tr>
</tbody>
</table>
Table 352 The CRUDN operations of the resource

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/GlassBreakResURI</td>
<td>get</td>
<td></td>
<td></td>
<td></td>
<td>observe</td>
</tr>
</tbody>
</table>

B.58 Glucose

B.58.1 Introduction

This resource describes the properties associated with a person's Glucose level.

The unit is a single value that is one of mg/dL, mmol/L.

If the unit Property is missing the default is milligrams per decilitre [mg/dL].

The glucose and unit Properties are read-only values that are provided by the server.

When range (from oic.r.baseresource) is omitted the default is 0 to +MAXFLOAT.
"schemes": ["http"],
"consumes": ["application/json"],
"produces": ["application/json"],
"paths": {
  "/GlucoseResURI": {
    "get": {
      "description": "This resource describes the properties associated with a person's Glucose level. The unit is a single value that is one of mg/dL, mmol/L. If the unit Property is missing, the default is milligrams per decilitre [mg/dL]. The glucose and unit Properties are read-only values that are provided by the server. When range (from oic.r.baseresource) is omitted the default is 0 to +MAXFLOAT. Retrieves glucose level of a person."
    },
    "parameters": [
      {"$ref": "/parameters/interface"}
    ],
    "responses": {
      "200": {
        "description": "",
        "x-example": {
          "rt": ["oic.r.glucose"],
          "id": "unique_example_id",
          "glucose": 90,
          "units": "mg/dL"
        }
      }
    }
  }
},
"parameters": {
  "interface": {
    "in": "query",
    "name": "if",
    "type": "string",
    "enum": ["oic.if.s", "oic.if.baseline"]
  }
},
"definitions": {
  "Glucose": {
    "properties": {
      "rt": {
        "description": "Resource Type",
        "items": {
          "maxLength": 64,
          "type": "string"
        },
        "minItems": 1,
        "readOnly": true,
        "type": "array"
      },
      "precision": {
        "description": "Accuracy granularity of the exposed value",
        "readOnly": true,
        "type": "number"
      },
      "value": {
        "anyOf": [
          { "type": "array" },
          { "type": "string" }
        ]
      }
    }
  }
}
35622      {  
35623          "type": "boolean"  
35624      },  
35625      {  
35626          "type": "integer"  
35627      },  
35628      {  
35629          "type": "number"  
35630      },  
35631      {  
35632          "type": "object"  
35633      }  
35634      },  
35635      "description": "The value sensed or actuated by this Resource"  
35636  
35637      "n":  
35638      {  
35639          "description": "Friendly name of the resource",  
35640          "maxLength": 64,  
35641          "readOnly": true,  
35642          "type": "string"  
35643      },  
35644      "units":  
35645      {  
35646          "description": "Glucose unit",  
35647          "enum": [  
35648              "mg/dL",  
35649              "mmol/L"  
35650          ],  
35651          "readOnly": true,  
35652          "type": "string"  
35653      },  
35654      "range":  
35655      {  
35656          "description": "The valid range for the value Property",  
35657          "items": [  
35658              {  
35659                  "anyOf": [  
35660                      {  
35661                          "type": "number"  
35662                      },  
35663                      {  
35664                          "type": "integer"  
35665                      }  
35666                  ],  
35667                  "type": "integer"  
35668              ]  
35669          },  
35670          "maxItems": 2,  
35671          "minItems": 2,  
35672          "readOnly": true,  
35673          "type": "array"  
35674      },  
35675      "step":  
35676      {  
35677          "anyOf": [  
35678              {  
35679                  "type": "integer"  
35680              },  
35681              {  
35682                  "type": "number"  
35683              }  
35684          },  
35685          "description": "Step value across the defined range",  
35686          "readOnly": true  
35687      },  
35688      "glucose":  
35689      {  
35690          "description": "A measurement of glucose concentration in the blood",  
35691          "readOnly": true  
35692      }
B.58.5 Property Definition

Table 353 The properties definitions of the resource

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>units</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Glucose unit</td>
</tr>
<tr>
<td>id</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Instance ID of this specific resource</td>
</tr>
<tr>
<td>glucose</td>
<td>number</td>
<td>Yes</td>
<td>Read Only</td>
<td>A measurement of glucose concentration in the blood</td>
</tr>
<tr>
<td>rt</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>Resource Type</td>
</tr>
<tr>
<td>n</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Friendly name of the resource</td>
</tr>
<tr>
<td>step</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>Read Only</td>
<td></td>
</tr>
</tbody>
</table>
The value sensed or actuated by this Resource

The valid range for the value Property

The interface set supported by this resource

Accuracy granularity of the exposed value

Table 354 The CRUDN operations of the resource

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/GlucoseResURI</td>
<td>get</td>
<td></td>
<td></td>
<td></td>
<td>observe</td>
</tr>
</tbody>
</table>

B.59 Context Carbohydrates for Glucose Meter

B.59.1 Introduction

This resource describes the properties associated with a context carbohydrates. The carb property has a default unit of grams[g]. The carb and meal properties are read-only values that are provided by the server. When range (from oic.r.baseresource) is omitted the default is 0 to +MAXFLOAT.

B.59.2 Example URI

/GlucoseCarbResURI

B.59.3 Resource Type

The resource type (rt) is defined as: ['oic.r.glucose.carb'].

B.59.4 Swagger2.0 Definition

```json
{
   "swagger": "2.0",
   "info": {
      "title": "Context Carbohydrates for Glucose Meter",
      "version": "v1.1.0-20160519",
      "license": {
         "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
         "x-description": "Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:
         1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
         2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.

         THIS SOFTWARE IS PROVIDED BY THE Open Connectivity Foundation, INC. "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR WARRANTIES OF NON-INFRINGEMENT, ARE DISCLAIMED. IN NO EVENT SHALL THE Open Connectivity Foundation, Inc. BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE."
      }
   }
}
```
"schemes": ["http"],
"consumes": ["application/json"],
"produces": ["application/json"],
"paths": {
  "/GlucoseCarbResURI": {
    "get": {
      "description": "This resource describes the properties associated with a context carbohydrates. The carb property has a default unit of grams[g]. The carb and meal properties are read-only values that are provided by the server. When range (from oic.r.baseresource) is omitted the default is 0 to MAXFLOAT. Retrieves Context Carbohydrates for Glucose Meter.",
      "parameters": [
        {
          "$ref": "#/parameters/interface"
        }
      ],
      "responses": {
        "200": {
          "description": "",
          "x-example": {
            "rt": ["oic.r.glucose.carb"],
            "id": "unique_example_id",
            "carb": 100,
            "meal": "breakfast"
          }
        }
      }
    }
  },
  "parameters": {
    "interface": {
      "in": "query",
      "name": "if",
      "type": "string",
      "enum": ["oic.if.s", "oic.if.baseline"]
    }
  },
  "definitions": {
    "GlucoseCarb": {
      "properties": {
        "rt": {
          "description": "Resource Type",
          "items": {
            "maxLength": 64,
            "type": "string"
          },
          "minItems": 1,
          "readOnly": true,
          "type": "array"
        },
        "step": {
          "anyOf": [
            {
              "type": "integer"
            },
            {
              "type": "number"
            }
          ]
        }
      }
    }
  }
}
"description": "Step value across the defined range",
"readOnly": true
},

"id" :
{
"description": "Instance ID of this specific resource",
"maxLength": 64,
"readOnly": true,
"type": "string"
},

"precision" :
{
"description": "Accuracy granularity of the exposed value",
"readOnly": true,
"type": "number"
},

"value" :
{
"anyOf": [
{
"type": "array"
},
{
"type": "string"
},
{
"type": "boolean"
},
{
"type": "integer"
},
{
"type": "number"
}
],
"description": "The value sensed or actuated by this Resource"
},

"n" :
{
"description": "Friendly name of the resource",
"maxLength": 64,
"readOnly": true,
"type": "string"
},

"range" :
{
"description": "The valid range for the value Property",
"items": [
"anyOf": [
{
"type": "number"
},
{
"type": "integer"
}
]
],
"maxItems": 2,
"minItems": 2,
"readOnly": true,
"type": "array"
}
"carb": {
  "description": "The amount of carbohydrates undertaken in grams",
  "readOnly": true,
  "type": "number"
},

"meal": {
  "description": "Recorded time of carbohydrates intake",
  "enum": [
    "breakfast",
    "lunch",
    "dinner",
    "snack",
    "drink",
    "supper",
    "brunch",
    "undetermined",
    "other",
    "no_entry",
    "no_ingestion"
  ],
  "readOnly": true,
  "type": "string"
},

"if": {
  "description": "The interface set supported by this resource",
  "items": {
    "enum": [
      "oic.if.baseline",
      "oic.if.ll",
      "oic.if.b",
      "oic.if.lb",
      "oic.if.rw",
      "oic.if.r",
      "oic.if.a",
      "oic.if.s"
    ],
    "type": "string"
  },
  "minItems": 1,
  "readOnly": true,
  "type": "array"
}

B.59.5 Property Definition

Table 355 The properties definitions of the resource

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>id</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Instance ID of this specific resource</td>
</tr>
<tr>
<td>if</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>The interface set supported by this resource</td>
</tr>
<tr>
<td>Property</td>
<td>Type</td>
<td>Read Only/Write</td>
<td>Description</td>
<td></td>
</tr>
<tr>
<td>----------</td>
<td>------</td>
<td>----------------</td>
<td>-------------</td>
<td></td>
</tr>
<tr>
<td>precision</td>
<td>number</td>
<td>No</td>
<td>Accuracy granularity of the exposed value</td>
<td></td>
</tr>
<tr>
<td>carb</td>
<td>number</td>
<td>Yes</td>
<td>The amount of carbohydrates undertaken in grams</td>
<td></td>
</tr>
<tr>
<td>step</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>Step value across the defined range</td>
<td></td>
</tr>
<tr>
<td>rt</td>
<td>array: see schema</td>
<td>No</td>
<td>Resource Type</td>
<td></td>
</tr>
<tr>
<td>range</td>
<td>array: see schema</td>
<td>No</td>
<td>The valid range for the value Property</td>
<td></td>
</tr>
<tr>
<td>value</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>The value sensed or actuated by this Resource</td>
<td></td>
</tr>
<tr>
<td>n</td>
<td>string</td>
<td>No</td>
<td>Friendly name of the resource</td>
<td></td>
</tr>
<tr>
<td>meal</td>
<td>string</td>
<td>Yes</td>
<td>Recorded time of carbohydrates intake</td>
<td></td>
</tr>
</tbody>
</table>

### B.59.6 CRUDN behaviour

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/GlucoseCarbResURI</td>
<td>get</td>
<td></td>
<td></td>
<td></td>
<td>observe</td>
</tr>
</tbody>
</table>

### B.60 Exercise for Glucose Meter

#### B.60.1 Introduction

This resource describes the properties associated with glucose exercise. The exercise property has a default unit of percentage[%]. The exercise property is a read-only value that is provided by the server.

#### B.60.2 Example URI

/ExerciseResURI

#### B.60.3 Resource Type

The resource type (rt) is defined as: ['oic.r.glucose.exercise'].

#### B.60.4 Swagger2.0 Definition

```json
{
  "swagger": "2.0",
  "info": {
    "title": "Exercise for Glucose Meter"
  }
}```
"version": "v1.1.0-20160519",
"license": {
  "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
  "x-description": "Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:
  1. Redistributions of source code must retain the above copyright notice, this list of conditions and
     the following disclaimer.
  2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.
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}
"schemes": ["http"],
"consumes": ["application/json"],
"produces": ["application/json"],
"paths": {
  "/ExerciseResURI": {
    "get": {
      "description": "This resource describes the properties associated with glucose exercise. The exercise property has a default unit of percentage[\%]. The exercise property is a read-only value that is provided by the server. Retrieves the level of exercise undertaken in percentage.",
      "parameters": [
        {
          "$ref": "#/parameters/interface"
        }
      ],
      "responses": {
        "200": {
          "description": "",
          "x-example": {
            "rt": ["oic.r.glucose.exercise"],
            "id": "unique_example_id",
            "exercise": 30
          }
        }
      },
      "schema": { "$ref": "#/definitions/Exercise" }
    }
  }
},
"parameters": {
  "interface": {
    "in": "query",
    "name": "if",
    "type": "string",
    "enum": ["oic.if.s", "oic.if.baseline"]
  },
"definitions": {
  "Exercise": {
    "properties": {
      "rt": {
        "description": "Resource Type",
        "items": {
          "maxLength": 64,
          "type": "string"}
      },
      "minItems": 1,
      "readOnly": true,
      "type": "array"
    }
  }
}}
"precision": {
  "description": "Accuracy granularity of the exposed value",
  "readOnly": true,
  "type": "number"
},

"value": {
  "anyOf": [
    {
      "type": "array"
    },
    {
      "type": "string"
    },
    {
      "type": "boolean"
    },
    {
      "type": "integer"
    },
    {
      "type": "number"
    },
    {
      "type": "object"
    }
  ],
  "description": "The value sensed or actuated by this Resource"
},

"n": {
  "description": "Friendly name of the resource",
  "maxLength": 64,
  "readOnly": true,
  "type": "string"
},

"range": {
  "description": "The valid range for the value Property",
  "items": {
    "anyOf": [
      {
        "type": "number"
      },
      {
        "type": "integer"
      }
    ],
    "maxItems": 2,
    "minItems": 2,
    "readOnly": true,
    "type": "array"
  },
  "step": {
    "anyOf": [
      {
        "type": "integer"
      },
      {
        "type": "number"
      }
    ],
    "description": "Step value across the defined range",
    "step": {
      "anyOf": [
        {
          "type": "integer"
        },
        {
          "type": "number"
        }
      ],
    "description": "Step value across the defined range",
  }}
B.60.5 Property Definition

Table 357 The properties definitions of the resource

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>precision</td>
<td>number</td>
<td>No</td>
<td>Read Only</td>
<td>Accuracy granularity of the exposed value</td>
</tr>
<tr>
<td>rt</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>Resource Type</td>
</tr>
<tr>
<td>value</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>Read Write</td>
<td>The value sensed or actuated by this Resource</td>
</tr>
<tr>
<td>exercise</td>
<td>number</td>
<td>Yes</td>
<td>Read Only</td>
<td></td>
</tr>
</tbody>
</table>
### CRUDN behaviour

<table>
<thead>
<tr>
<th>Property</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>The level of exercise undertaken in percentage</td>
<td>The interface set supported by this resource</td>
</tr>
<tr>
<td>Step value across the defined range</td>
<td>The valid range for the value Property</td>
</tr>
<tr>
<td>Friendly name of the resource</td>
<td>Instance ID of this specific resource</td>
</tr>
</tbody>
</table>

#### Table 358 The CRUDN operations of the resource

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/ExerciseResURI</td>
<td>get</td>
<td></td>
<td></td>
<td></td>
<td>observe</td>
</tr>
</tbody>
</table>

### B.61 Haemoglobin Bound to Glucose A1c Form (HbA1c) for Glucose Meter

#### B.61.1 Introduction

This resource describes the properties associated with a person's Hba1c level. The unit is a single value that is percentage [%]. The hba1c Property is a read-only value that is provided by the server.

#### B.61.2 Example URI

/GlucoseHbA1cResURI

#### B.61.3 Resource Type

The resource type (rt) is defined as: ['oic.r.glucose.hba1c'].

#### B.61.4 Swagger2.0 Definition

```json
{
    "swagger": "2.0",
    "info": {
        "title": "Hemoglobin Bound to Glucose A1c Form (HbA1c) for Glucose Meter",
        "version": "v1.1.0-20160519",
    },
    "license": {
        "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved."
    }
}
```
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warranties of non-infringement, are disclaimed.

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or services; loss of use, data, or profits; or business interruption) however caused and
on any theory of liability, whether in contract, strict liability, or tort (including negligence or
otherwise) arising in any way out of the use of this software, even if advised of the possibility
of such damage."

"schemes": ["http"],
"consumes": ["application/json"],
"produces": ["application/json"],
"paths": {
  "/GlucoseHbA1cResURI": {
    "get": {
      "description": "This resource describes the properties associated with a person's HbA1c level. The unit is a single value that is percentage [%]. The hba1c Property is a read-only value that is provided by the server. Retrieves Hemoglobin Bound to Glucose A1c Form (HbA1c) for Glucose Meter."
    },
    "parameters": [
      {"$ref": "/#/parameters/interface"}
    ],
    "responses": {
      "200": {
        "description": "",
        "x-example": {
        "rt": ["oic.r.glucose.hba1c"],
        "id": "unique_example_id",
        "hba1c": 5
        }
      },
      "schema": { "$ref": "/#/definitions/HbA1c" }
    }
  }
},
"parameters": {
  "interface": {
    "in": "query",
    "name": "if",
    "type": "string",
    "enum": ["oic.if.s", "oic.if.baseline"]
  }
},
"definitions": {
  "HbA1c": {
    "properties": {
      "rt": {
        "description": "Resource Type",
        "items": {
          "maxLength": 64,
          "type": "string"
        },
        "minItems": 1,
        "readOnly": true,
        "type": "array"
      },
      "hba1c": {
        "description": "Current HbA1c measurement in percentage",
        "maximum": 100,
        "minimum": 0,
        "readOnly": true,
        "type": "number"
      }
    }
  }
}
"value": 
{
    "anyOf": [
    {
        "type": "array"
    },
    {
        "type": "string"
    },
    {
        "type": "boolean"
    },
    {
        "type": "integer"
    },
    {
        "type": "number"
    },
    {
        "type": "object"
    }
],
"description": "The value sensed or actuated by this Resource"
},
"n": 
{
    "description": "Friendly name of the resource",
    "maxLength": 64,
    "readOnly": true,
    "type": "string"
},
"range": 
{
    "description": "The valid range for the value Property",
    "items": {
        "anyOf": [
        {
            "type": "number"
        },
        {
            "type": "integer"
        }
    ],
    "maxItems": 2,
    "minItems": 2,
    "readOnly": true,
    "type": "array"
},
"precision": 
{
    "description": "Accuracy granularity of the exposed value",
    "readOnly": true,
    "type": "number"
},
"step": 
{
    "anyOf": [
    {
        "type": "integer"
    },
    {
        "type": "number"
    }
],
"description": "Step value across the defined range",
"readOnly": true
"id": {
  "description": "Instance ID of this specific resource",
  "maxLength": 64,
  "readOnly": true,
  "type": "string"
},
"if": {
  "description": "The interface set supported by this resource",
  "items": {
    "enum": [
      "oic.if.baseline",
      "oic.if.ll",
      "oic.if.b",
      "oic.if.lb",
      "oic.if.rw",
      "oic.if.r",
      "oic.if.s",
    ],
    "type": "string"
  },
  "minItems": 1,
  "readOnly": true,
  "type": "array"
}

B.61.5 Property Definition

Table 359 The properties definitions of the resource

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>step</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>Step value across the defined range</td>
</tr>
<tr>
<td>if</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>The interface set supported by this resource</td>
</tr>
<tr>
<td>id</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Instance ID of this specific resource</td>
</tr>
<tr>
<td>rt</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>Resource Type</td>
</tr>
<tr>
<td>value</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>Read Write</td>
<td>The value sensed or actuated by this Resource</td>
</tr>
<tr>
<td>range</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td></td>
</tr>
<tr>
<td>Property</td>
<td>Type</td>
<td>Access</td>
<td>Read Only</td>
<td>Description</td>
</tr>
<tr>
<td>-------------------</td>
<td>--------</td>
<td>--------</td>
<td>-----------</td>
<td>--------------------------------------------------</td>
</tr>
<tr>
<td>precision</td>
<td>number</td>
<td>No</td>
<td>Read Only</td>
<td>The valid range for the value number</td>
</tr>
<tr>
<td>n</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Accuracy granularity of the exposed value</td>
</tr>
<tr>
<td>hba1c</td>
<td>number</td>
<td>Yes</td>
<td>Read Only</td>
<td>Friendly name of the resource</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Current HbA1c measurement in percentage</td>
</tr>
</tbody>
</table>

### B.61.6 CRUDN behaviour

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/GlucoseHbA1cResURI</td>
<td>get</td>
<td></td>
<td></td>
<td></td>
<td>observe</td>
</tr>
</tbody>
</table>

### B.62 Context Health for Glucose Meter

#### B.62.1 Introduction

This resource describes the properties associated with context health. The health Property is a read-only value that is provided by the server where minor and major are related to the general health or the level of illness of the person; menses refers to the female menstrual cycle; stress refers to physiological or psychological stress.

#### B.62.2 Example URI

/GlucoseHealthResURI

#### B.62.3 Resource Type

The resource type (rt) is defined as: `[oic.r.glucose.health]`.

#### B.62.4 Swagger2.0 Definition

```json
{
  "swagger": "2.0",
  "info": {
    "title": "Context Health for Glucose Meter",
    "version": "v1.1.0-20160519",
    "license": {
      "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved."
    },
    "x-description": "Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:
1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.
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}
```
"schemes": ["http"],
"consumes": ["application/json"],
"produces": ["application/json"],
"paths": {
"/GlucoseHealthResURI": {
"get": {
"description": "This resource describes the properties associated with context health. The health property is a read-only value that is provided by the server where minor and major are related to the general health or the level of illness of the person; menses refers to the female menstrual cycle; stress refers to physiological or psychological stress. Retrieves Context Health for Glucose Meter."
"parameters": [{$ref": "/parameters/interface"]
,"responses": {
"200": {
"description": ",
"x-example": {
"rt": ["oic.r.glucose.health"],
"id": "unique_example_id",
"health": "major"
}
},
"schema": { "$ref": "/definitions/GlucoseHealth" }
},
"parameters": {
"interface": {
"in": "query",
"name": "if",
"type": "string",
"enum": ["oic.if.s", "oic.if.baseline"]
},
"definitions": {
"GlucoseHealth": {
"properties": {
"rt": {
"description": "Resource Type",
"items": {
"maxLength": 64,
"type": "string"
},
"minItems": 1,
"readOnly": true,
"type": "array"
},
"precision": {
"description": "Accuracy granularity of the exposed value",
"readOnly": true,
"type": "number"
},
"value": {
"anyOf": [
{"type": "array"},
{"type": "string"}
]
},
"copyright": "Open Connectivity Foundation, Inc. © 2016-18. All rights reserved"}
"type": "boolean"
},
"type": "integer"
},
"type": "number"
},
"type": "object"
}]
"description": "The value sensed or actuated by this Resource"
},
"n": {
"description": "Friendly name of the resource",
"maxLength": 64,
"readOnly": true,
"type": "string"
},
"range": {
"description": "The valid range for the value Property",
"items": {
"anyOf": [{
"type": "number"
},
"type": "integer"
}
},
"maxItems": 2,
"minItems": 2,
"readOnly": true,
"type": "array"
},
"health": {
"description": "The various levels of health a person feels when taking a glucose.",
"enum": [
"minor",
"major",
"menses",
"stress",
"none"
],
"readOnly": true,
"type": "string"
},
"step": {
"anyOf": [{
"type": "integer"
},
"type": "number"
}
],
"description": "Step value across the defined range",
"readOnly": true
},
"id":

B.62.5 Property Definition

Table 361 The properties definitions of the resource

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>n</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Friendly name of the resource</td>
</tr>
<tr>
<td>rt</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>Resource Type</td>
</tr>
<tr>
<td>id</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Instance ID of this specific resource</td>
</tr>
<tr>
<td>health</td>
<td>string</td>
<td>Yes</td>
<td>Read Only</td>
<td>The various levels of health a person feels when taking a glucose.</td>
</tr>
<tr>
<td>if</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>The interface set supported by this resource</td>
</tr>
<tr>
<td>precision</td>
<td>number</td>
<td>No</td>
<td>Read Only</td>
<td>Accuracy granularity of the exposed value</td>
</tr>
</tbody>
</table>
# Context Meal for Glucose Meter

## Introduction

This resource describes the properties associated with context meal.
- **Pre-prandial** means pre-meal.
- **Postprandial** means post-meal.
- **Fasting** means the effect of long-term absence of food intake (overnight).

The meal Property is a read-only value that is provided by the server.

## Example URI

```
/GlucoseMealResURI
```

## Resource Type

The resource type (rt) is defined as: `[oic.r.glucose.meal]`.

## Swagger2.0 Definition

```json
{
    "swagger": "2.0",
    "info": {
        "title": "Context Meal for Glucose Meter",
        "version": "v1.1.0-20160519",
        "license": {
            "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
            "x-description": "Redistribution and use in source and binary forms, with or without
            modification, are permitted provided that the following conditions are met: 1.
            Redistributions of source code must retain the above copyright notice, this list of
            conditions and the following disclaimer.
            2. Redistributions in binary form must reproduce the above
            copyright notice, this list of conditions and the following disclaimer in the
documentation and/or
            other materials provided with the distribution.
            THIS SOFTWARE IS PROVIDED BY THE Open Connectivity Foundation, INC. "AS IS"
            AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
            LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND
            FITNESS FOR A PARTICULAR PURPOSE OR
            WARRANTIES OF NON-INFRINGEMENT, ARE DISCLAIMED.
            IN NO EVENT SHALL THE Open Connectivity Foundation, INC. OR CONTRIBUTORS
            BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL,
            EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO,
            PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR
            PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF
            LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING
            NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS
            SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.
"
    }
}
```

---

**Table 362 The CRUDN operations of the resource**

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>/GlucoseHealthResURI</code></td>
<td>get</td>
<td></td>
<td></td>
<td></td>
<td>observe</td>
</tr>
</tbody>
</table>
"schemes": ["http"],
"consumes": ["application/json"],
"produces": ["application/json"],
"paths": {
  "/GlucoseMealResURI": {
    "get": {
      "description": "This resource describes the properties associated with context meal. Preprandial means pre-meal. Postprandial means post-meal. Fasting means the effect of long-term absence of food intake (overnight). The meal Property is a read-only value that is provided by the server. Retrieves Context Meal for Glucose Meter."
    },
    "parameters": [
      {
        "$ref": "#/parameters/interface"
      },
      "responses": {
        "200": {
          "description": "",
          "x-example": {
            "rt": ["oic.r.glucose.meal"],
            "id": "unique_example_id",
            "meal": "preprandial"
          }
        }
      },
      "definitions": {
        "GlucoseMeal" : {
          "properties": {
            "rt": {
              "description": "Resource Type",
              "items": {
                "maxLength": 64,
                "type": "string"
              },
              "minItems": 1,
              "readOnly": true,
              "type": "array"
            },
            "step": {
              "anyOf": [
                {
                  "type": "integer"
                },
                {
                  "type": "number"
                }
              ],
              "description": "Step value across the defined range",
              "readOnly": true
            },
            "precision": {
              "description": "Accuracy granularity of the exposed value",
              "readOnly": true,
              "type": "number"
            }
          },
          "properties": {
            "rt": {
              "description": "Resource Type",
              "items": {
                "maxLength": 64,
                "type": "string"
              },
              "minItems": 1,
              "readOnly": true,
              "type": "array"
            }
          }
        }
      }
    }
  }
}
"parameters": {
  "interface": {
    "in": "query",
    "name": "if",
    "type": "string",
    "enum": ["oic.if.s", "oic.if.baseline"]
  }
},
"definitions": {
  "GlucoseMeal" : {
    "properties": {
      "rt": {
        "description": "Resource Type",
        "items": {
          "maxLength": 64,
          "type": "string"
        },
        "minItems": 1,
        "readOnly": true,
        "type": "array"
      },
      "step": {
        "anyOf": [
          {
            "type": "integer"
          },
          {
            "type": "number"
          }
        ],
        "description": "Step value across the defined range",
        "readOnly": true
      },
      "precision": {
        "description": "Accuracy granularity of the exposed value",
        "readOnly": true,
        "type": "number"
      }
    },
    "properties": {
      "rt": {
        "description": "Resource Type",
        "items": {
          "maxLength": 64,
          "type": "string"
        },
        "minItems": 1,
        "readOnly": true,
        "type": "array"
      }
    }
  }
}
"value": {
  "anyOf": [
    { "type": "array" },
    { "type": "string" },
    { "type": "boolean" },
    { "type": "integer" },
    { "type": "number" },
    { "type": "object" }
  ],
  "description": "The value sensed or actuated by this Resource"
},
"n": {
  "description": "Friendly name of the resource",
  "maxLength": 64,
  "readOnly": true,
  "type": "string"
},
"range": {
  "description": "The valid range for the value Property",
  "items": {
    "anyOf": {
      "type": "number" 
    },
    { "type": "integer" }
  }
},
"id": {
  "description": "Instance ID of this specific resource",
  "maxLength": 64,
  "readOnly": true,
  "type": "string"
},
"meal": {
  "description": "Time of day when the measurement is taken."
},
"enum": ["preprandial", "postprandial", "fasting", "bedtime", "casual"]}
B.63.5 Property Definition

Table 363 The properties definitions of the resource

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>step</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>Step value across the defined range</td>
</tr>
<tr>
<td>range</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>The valid range for the value Property</td>
</tr>
<tr>
<td>value</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>Read Write</td>
<td>The value sensed or actuated by this Resource</td>
</tr>
<tr>
<td>rt</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>Resource Type</td>
</tr>
<tr>
<td>n</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Friendly name of the resource</td>
</tr>
<tr>
<td>id</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Instance ID of this specific resource</td>
</tr>
<tr>
<td>if</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td></td>
</tr>
</tbody>
</table>


### B.63.6 CRUDN behaviour

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/GlucoseMealResURI</td>
<td>create</td>
<td>get</td>
<td>observe</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### B.64 Context Medication for Glucose Meter

**B.64.1 Introduction**

This resource describes the properties associated with context medication. The unit is a single value that is one of mg and mL. The medication property has a default unit of milligrams[mg]. The medication, unit and regimen Properties are read-only values that are provided by the server. When range (from oic.r.baseresource) is omitted the default is 0 to +MAXFLOAT.

**B.64.2 Example URI**

/GlucoseMedicationResURI

**B.64.3 Resource Type**

The resource type (rt) is defined as: ['oic.r.glucose.medication'].
"schemes": ["http"],
"consumes": ["application/json"],
"produces": ["application/json"],
"paths": {
  "/GlucoseMedicationResURI": {
    "get": {
      "description": "This resource describes the properties associated with context medication.
The unit is a single value that is one of mg and mL.
The medication property has a default unit of milligrams[mg].
The medication, unit and regimen Properties are read-only values that are provided by the server.
When range (from oic.r.baseresource) is omitted the default is 0 to +MAXFLOAT.\nRetrieves Context Medication for Glucose Meter.\n",
      "parameters": [ {
        "$ref": "#/parameters/interface"
      } ],
      "responses": { 
        "200": { 
          "description": "", 
          "x-example": {
            "rt": ["oic.r.glucose.medication"],
            "id": "unique_example_id",
            "medication": 100,
            "units": "mg",
            "regimen": "rapidacting"
          }
        },
        "schema": { "$ref": "#/definitions/GlucoseMedication" } 
      }
    }
  }
},
"parameters": { 
  "interface": { 
    "in": "query",
    "name": "if",
    "type": "string",
    "enum": ["oic.if.s", "oic.if.baseline"]
  }
},
"definitions": { 
  "GlucoseMedication": { 
    "properties": { 
      "rt": { 
        "description": "Resource Type",
        "items": { 
          "maxLength": 64,
          "type": "string"
        },
        "minItems": 1,
        "readOnly": true,
        "type": "array"
      },
      "regimen": { 
        "description": "Medication regimen",
        "enum": ["rapidacting", "shortacting", "intermediateacting", "longacting", "premix"],
        "readOnly": true,
        "type": "string"
      },
      "medication": { 
        "description": "Medication properties associated with context medication.
These are read-only values that are provided by the server.
When range (from oic.r.baseresource) is omitted the default is 0 to +MAXFLOAT.\nRetrieves Context Medication for Glucose Meter.\n",
        "parameters": [ {
          "$ref": "#/parameters/interface"
        } ],
        "responses": { 
          "200": { 
            "description": "", 
            "x-example": {
              "rt": ["oic.r.glucose.medication"],
              "id": "unique_example_id",
              "medication": 100,
              "units": "mg",
              "regimen": "rapidacting"
            }
          },
          "schema": { "$ref": "#/definitions/GlucoseMedication" } 
        }
      }
    }
  }
}
"description": "The level of medication undertaken",
"readOnly": true,
"type": "number"},

"precision": {
  "description": "Accuracy granularity of the exposed value",
  "readOnly": true,
  "type": "number"
},

"value": {
  "anyOf": [
    {
      "type": "array"
    },
    {
      "type": "string"
    },
    {
      "type": "boolean"
    },
    {
      "type": "integer"
    },
    {
      "type": "number"
    },
    {
      "type": "object"
    }
  ]
},

"n": {
  "description": "Friendly name of the resource",
  "maxLength": 64,
  "readOnly": true,
  "type": "string"
},

"units": {
  "description": "Current exercise movement type measurement",
  "enum": [
    "mg",
    "mL"
  ],
  "readOnly": true,
  "type": "string"
},

"range": {
  "description": "The valid range for the value Property",
  "items": {
    "anyOf": [
      {
        "type": "number"
      },
      {
        "type": "integer"
      }
    ]
  }
}


```json
  "type": "object",
  "required": [
    "medication"
  ],

B.6.5 Property Definition

Table 365 The properties definitions of the resource

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>n</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Friendly name of the resource</td>
</tr>
<tr>
<td>range</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>The valid range for the value Property</td>
</tr>
<tr>
<td>regimen</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td></td>
</tr>
</tbody>
</table>
```

<table>
<thead>
<tr>
<th>Property</th>
<th>Type</th>
<th>Access</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>if</td>
<td>array: see schema</td>
<td>No</td>
<td>The interface set supported by this resource</td>
</tr>
<tr>
<td>rt</td>
<td>array: see schema</td>
<td>No</td>
<td>Resource Type</td>
</tr>
<tr>
<td>value</td>
<td>multiple types: see</td>
<td>No</td>
<td>The value sensed or actuated by this Resource</td>
</tr>
<tr>
<td></td>
<td>schema</td>
<td></td>
<td></td>
</tr>
<tr>
<td>units</td>
<td>string</td>
<td>No</td>
<td>Current exercise movement type measurement</td>
</tr>
<tr>
<td>precision</td>
<td>number</td>
<td>No</td>
<td>Accuracy granularity of the exposed value</td>
</tr>
<tr>
<td>medication</td>
<td>number</td>
<td></td>
<td>The level of medication undertaken</td>
</tr>
<tr>
<td>step</td>
<td>multiple types: see</td>
<td>No</td>
<td>Step value across the defined range</td>
</tr>
<tr>
<td></td>
<td>schema</td>
<td></td>
<td></td>
</tr>
<tr>
<td>id</td>
<td>string</td>
<td>No</td>
<td>Instance ID of this specific resource</td>
</tr>
</tbody>
</table>

**B.65 Glucose Meter Atomic Measurement**

**B.65.1 Introduction**

This resource describes the properties associated with glucose meter.

The resource is an atomic measurement of glucose (oic.r.glucose), context carbohydrates (oic.r.glucose.carb), context exercise (oic.r.glucose.exercise), Hemoglobin Bound to Glucose A1c Form (HbA1c) (oic.r.glucose.hba1c), context health (oic.r.glucose.health), context meal (oic.r.glucose.meal), context medication (oic.r.glucose.medication), context sample location (oic.r.glucose.samplelocation), context tester (oic.r.glucose.tester), observed time (oic.r.time.stamp), and user ID (oic.r.userid).

**B.65.2 Example URI**

/GlucoseMeterAMResURI
B.65.3 Resource Type

The resource type (rt) is defined as: ['oic.r.glucosemeter-am']

B.65.4 Swagger2.0 Definition

```json
{
  "swagger": "2.0",
  "info": {
    "title": "Glucose Meter Atomic Measurement Linked List Representation",
    "version": "v1.1.0-20160519",
    "license": {
      "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved."
    }
  },
  "schemes": ["http"],
  "consumes": ["application/json"],
  "produces": ["application/json"],
  "paths": {
    "/GlucoseMeterAMResURI?if=oic.if.ll" : {
      "get": {
        "description": "This resource describes the proporties associated with glucose meter. The resource is an atomic measurement of glucose (oic.r.glucose), context carbohydrates (oic.r.glucose.carb), context exercise (oic.r.glucose.exercise), Hemoglobin Bound to Glucose A1c Form (HbA1c) (oic.r.glucose.hba1c), context health (oic.r.glucose.health), context meal (oic.r.glucose.meal), context sample location (oic.r.glucose.samplelocation), context tester (oic.r.glucose.tester), observed time (oic.r.time.stamp), and user ID (oic.r.userid). Retrieves the current glucose.
        
        "parameters": [
          {
            "$ref": "#/parameters/interface-ll"
          }
        ],
        "responses": {
          "200": {
            "description": "",
            "x-example": [
              {
                "href": "/myGlucoseResURI",
                "rt": ["oic.r.glucose"],
                "if": ["oic.if.s", "oic.if.baseline"]
              },
              {
                "href": "/myHbA1cResURI",
                "rt": ["oic.r.glucose.hba1c"],
                "if": ["oic.if.s", "oic.if.baseline"]
              }
            ],
            "schema": { "$ref": "#/definitions/links" }
          }
        }
      }
    }
  }
}```
resource is an atomic measurement of glucose (oic.r.glucose), context carbohydrates
Form (HbA1c) (oic.r.glucose.hba1c), context health (oic.r.glucose.health), context meal
(oic.r.glucose.meal), context medication (oic.r.glucose.medication), context sample location
(oic.r.glucose.samplelocation), context tester (oic.r.glucose.tester), observed time
(oic.r.time.stamp), and user ID (oic.r.userid).
Retrieves the current glucose.

"parameters": [
  {"$ref": "#/parameters/interface-b"}
],
"responses": {
  "200": {
    "description": "",
    "x-example": {
      "href": "/myGlucoseResURI",
      "rep": {
        "glucose": 100,
        "units": "mg/dL"
      }
    }
  },
  {
    "href": "/myHbA1cResURI",
    "rep": {
      "hba1c": 5
    }
  }
},
"schema": { "$ref": "#/definitions/batch-retrieve" }
}
"/GlucoseMeterAMResURI?if=oic.if.baseline" : {
  "get": {
    "description": "This resource describes the properties associated with glucose meter.
The resource is an atomic measurement of glucose (oic.r.glucose), context carbohydrates
Form (HbA1c) (oic.r.glucose.hba1c), context health (oic.r.glucose.health), context meal
(oic.r.glucose.meal), context medication (oic.r.glucose.medication), context sample location
(oic.r.glucose.samplelocation), context tester (oic.r.glucose.tester), observed time
(oic.r.time.stamp), and user ID (oic.r.userid).\nRetrieves the current glucose."
"parameters": [
  {"$ref": "#/parameters/interface-baseline"}
],
"responses": {
  "200": {
    "description": "",
    "x-example": {
      "rt": ["oic.r.glucosemeter-am", "oic.wk.atomicmeasurement"],
      "if": ["oic.if.b", "oic.if.ll", "oic.if.baseline"],
      "rts": ["oic.r.glucose", "oic.r.glucose.hba1c"],
      "rts-m": ["oic.r.glucose"],
      "links": ["href": "/myGlucoseResURI",
      "rt": ["oic.r.glucose"],
      "if": ["oic.if.s", "oic.if.baseline"]
    }
  },
  {
    "href": "/myHbA1cResURI",
    "rt": ["oic.r.glucose.hba1c"],
    "if": ["oic.if.s", "oic.if.baseline"]
  }
}
}
"parameters": {
  "interface-ll": {
    "in": "query",
    "name": "if",
    "type": "string",
    "enum": ["oic.if.ll"]
  },
  "interface-b": {
    "in": "query",
    "name": "if",
    "type": "string",
    "enum": ["oic.if.b"]
  },
  "interface-baseline": {
    "in": "query",
    "name": "if",
    "type": "string",
    "enum": ["oic.if.baseline"]
  },
  "interface-all": {
    "in": "query",
    "name": "if",
    "type": "string",
    "enum": ["oic.if.b", "oic.if.ll", "oic.if.baseline"]
  }
},

"definitions": {
  "links": {
    "type": "array",
    "items": {
      "$ref": "#/definitions/oic.oic-link"
    }
  },
  "batch-retrieve": {
    "title": "Collection Batch Retrieve Format",
    "minItems": 1,
    "items": {
      "additionalProperties": true,
      "properties": {
        "href": {
          "description": "URI of the target resource relative assuming the collection URI as anchor",
          "type": "string"
        },
        "rep": {
          "oneOf": [
            { "description": "The response payload from a single resource",
              "type": "object" },
            { "description": "The response payload from a collection (batch) resource",
              "type": "array" }
          ]
        }
      }
    }
  }
}


```

,...

"required": [
  "href",
  "rep"
],
"type": "object"
}

,"type": "array"

"baseline": {
  "properties": {
    "rt": {
      "items": {
        "enum": [
          "oic.r.glucosemeter-am",
          "oic.wk.atomicmeasurement"
        ],
        "maxItems": 2,
        "minItems": 2,
        "type": "array",
        "uniqueItems": true
      }
    },
    "links": {
      "description": "A set of simple or individual OIC Links."
    }
  }
}

"href": {
  "description": "This is used to override the context URI e.g. override the URI of
  the containing collection."
},
"di": {
  "description": "The Device ID formatted according to IETF RFC 4122."
},
"ep": {
  "description": "the Endpoint information of the target Resource"
}

```

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"maxLength": 256,
"type": "string"
},
"if": {
"description": "The interface set supported by this resource",
"items": {
"enum": [
"oic.if.baseline",
"oic.if.ll",
"oic.if.b",
"oic.if.rw",
"oic.if.r",
"oic.if.a",
"oic.if.s"
],
"type": "string"
},
"minItems": 1,
"type": "array"
},
"ins": {
"description": "The instance identifier for this web link in an array of web links used in collections",
"type": "integer"
},
"p": {
"description": "Specifies the framework policies on the Resource referenced by the target URI",
"properties": {
"bm": {
"description": "Specifies the framework policies on the Resource referenced by the target URI for e.g. observable and discoverable",
"type": "integer"
}
},
"required": [
"bm"
],
"type": "object"
},
"rel": {
"description": "The relation of the target URI referenced by the link to the context URI",
"oneOf": [
{
"default": [
"hosts"
],
"items": {
"maxLength": 64,
"type": "string"
},
"minItems": 1,
"type": "array"
},
{
"default": "hosts",
"maxLength": 64,
"type": "string"
}
]
},
"rt": {
"description": "Resource Type of the Resource",
"items": {
"maxLength": 64,
"type": "string"
},
"minItems": 1,
"type": "array"}
"title": {
    "description": "A title for the link relation. Can be used by the UI to provide a context.",
    "maxLength": 64,
    "type": "string"
},
"type": [
    "default": "application/cbor",
    "description": "A hint at the representation of the resource referenced by the target URI. This represents the media types that are used for both accepting and emitting."
],
"items": [
    "maxLength": 64,
    "type": "string"
],
"minItems": 1,
"type": "array"
},
"required": [
    "href",
    "rt",
    "if"
],
"type": "object"},
"n": {
    "description": "Friendly name of the resource",
    "maxLength": 64,
    "readOnly": true,
    "type": "string"
},
"rts": {
    "description": "This contains all possible resource types for this atomic measurement",
    "items": [
        "enum": [
            "oic.r.glucose",
            "oic.r.glucose.carb",
            "oic.r.glucose.exercise",
            "oic.r.glucose.hbalo",
            "oic.r.glucose.health",
            "oic.r.glucose.meal",
            "oic.r.glucose.medication",
            "oic.r.glucose.samplelocation",
            "oic.r.glucose.tester",
            "oic.r.time.observed",
            "oic.r.userid"
        ],
        "minItems": 1,
        "type": "array",
        "uniqueItems": true
    ],
    "id": {
        "description": "Instance ID of this specific resource",
        "maxLength": 64,
        "readOnly": true,
        "type": "string"
    },
    "rts-m": {
        "description": "This contains all mandatory resource types for this atomic measurement",
        "items": [
            "enum": [
                "oic.r.glucose",
                "oic.r.glucose.carb",
                "oic.r.glucose.exercise",
                "oic.r.glucose.hbalo",
                "oic.r.glucose.health",
                "oic.r.glucose.meal",
                "oic.r.glucose.medication",
                "oic.r.glucose.samplelocation",
                "oic.r.glucose.tester",
                "oic.r.time.observed",
                "oic.r.userid"
            ],
            "minItems": 1,
            "type": "array",
            "uniqueItems": true
        ],
        "id": {
            "description": "Instance ID of this specific resource",
            "maxLength": 64,
            "readOnly": true,
            "type": "string"
        },
        "rts-m": {
            "description": "This contains all mandatory resource types for this atomic measurement",
            "items": [
"enum": [
  "oic.r.glucose"
],
"maxItems": 1,
"minItems": 1,
"type": "array",
"uniqueItems": true
},
"if": {
  "description": "The interface set supported by this resource",
  "items": {
    "enum": [
      "oic.if.baseline",
      "oic.if.ll",
      "oic.if.b",
      "oic.if.lb",
      "oic.if.rw",
      "oic.if.r",
      "oic.if.s",
      "oic.if.s"
    ],
    "type": "string"
  },
  "minItems": 1,
  "readOnly": true,
  "type": "array"
}
},
"type": "object",
"required": ["rts-m"]
}
"oic.oic-link": {
  "properties": {
    "anchor": {
      "description": "This is used to override the context URI e.g. override the URI of the
      containing collection."
    },
    "format": "uri",
    "maxLength": 256,
    "type": "string"
  },
  "di": {
    "description": "The Device ID formatted according to IETF RFC 4122."
  },
  "pattern": "^[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{12}$",
  "type": "string"
},
"eps": {
  "description": "the Endpoint information of the target Resource",
  "items": {
    "properties": {
      "ep": {
        "description": "Transport Protocol Suite + Endpoint Locator",
        "format": "uri",
        "type": "string"
      },
      "pri": {
        "description": "The priority among multiple Endpoints",
        "minimum": 1,
        "type": "integer"
      }
    },
    "type": "object"
  },
  "type": "array"
},
"href": {
  "anchor": {"type": "object"},
  "pattern": "^[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{12}$",
  "type": "string"
}
"description": "This is the target URI, it can be specified as a Relative Reference or
fully-qualified URI.",
"format": "uri",
"maxLength": 256,
"type": "string"
},
"if": {
  "description": "The interface set supported by this resource",
  "items": {
    "enum": [
      "oic.if.baseline",
      "oic.if.ll",
      "oic.if.b",
      "oic.if.rw",
      "oic.if.r",
      "oic.if.a",
      "oic.if.s"
    ],
    "type": "string"
  },
  "minItems": 1,
  "type": "array"
},
"ins": {
  "description": "The instance identifier for this web link in an array of web links - used
in collections",
  "type": "integer"
},
"p": {
  "description": "Specifies the framework policies on the Resource referenced by the target
URI",
  "properties": {
    "bm": {
      "description": "Specifies the framework policies on the Resource referenced by the
target URI for e.g. observable and discoverable",
      "type": "integer"
    }
  },
  "required": [
    "bm"
  ],
  "type": "object"
},
"rel": {
  "description": "The relation of the target URI referenced by the link to the context
URI",
  "oneOf": [
    {"default": ["hosts"], "items": {
      "maxLength": 64,
      "type": "string"
    },
    "minItems": 1,
    "type": "array"}
  ]
},
"rt": {
  "description": "Resource Type of the Resource",
  "items": {
    "maxLength": 64,
    "type": "string"}
}
"minItems": 1,
"type": "array"
},
"title": {
"description": "A title for the link relation. Can be used by the UI to provide a context.",
"maxLength": 64,
"type": "string"
},
"type": {
"default": "application/cbor",
"description": "A hint at the representation of the resource referenced by the target URI. This represents the media types that are used for both accepting and emitting.",
"items": {
"maxLength": 64,
"type": "string"
},
"minItems": 1,
"type": "array"
}
],
"required": ["href",
"rt",
"if"
],
"type": "object"
}

B.65.5 Property Definition

Table 367 The properties definitions of the resource

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>rep</td>
<td>multiple types: see schema</td>
<td>Yes</td>
<td>Read Write</td>
<td></td>
</tr>
<tr>
<td>href</td>
<td>string</td>
<td>Yes</td>
<td>Read Write</td>
<td>URI of the target resource relative assuming the collection URI as anchor</td>
</tr>
<tr>
<td>links</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Write</td>
<td>A set of simple or individual OIC Links.</td>
</tr>
<tr>
<td>rt</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Write</td>
<td></td>
</tr>
<tr>
<td>id</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Instance ID of this specific resource</td>
</tr>
<tr>
<td>n</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Friendly name of the resource</td>
</tr>
<tr>
<td>rts</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Write</td>
<td>This contains all possible resource types</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td></td>
</tr>
<tr>
<td><strong>rts-m</strong></td>
<td>array: see schema</td>
<td>Yes</td>
<td>Read Write</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td><strong>This contains all mandatory resource types for this atomic measurement.</strong></td>
<td></td>
</tr>
<tr>
<td><strong>if</strong></td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td><strong>The interface set supported by this resource</strong></td>
<td></td>
</tr>
<tr>
<td><strong>di</strong></td>
<td>string</td>
<td>No</td>
<td>Read Write</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td><strong>The Device ID formatted according to IETF RFC 4122.</strong></td>
<td></td>
</tr>
<tr>
<td><strong>rel</strong></td>
<td>multiple types: see schema</td>
<td>No</td>
<td>Read Write</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td><strong>The relation of the target URI referenced by the link to the context URI</strong></td>
<td></td>
</tr>
<tr>
<td><strong>if</strong></td>
<td>array: see schema</td>
<td>Yes</td>
<td>Read Write</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td><strong>The interface set supported by this resource</strong></td>
<td></td>
</tr>
<tr>
<td><strong>href</strong></td>
<td>string</td>
<td>Yes</td>
<td>Read Write</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td><strong>This is the target URI, it can be specified as a Relative Reference or fully-qualified URI.</strong></td>
<td></td>
</tr>
<tr>
<td><strong>eps</strong></td>
<td>array: see schema</td>
<td>No</td>
<td>Read Write</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td><strong>the Endpoint information of the target Resource</strong></td>
<td></td>
</tr>
<tr>
<td><strong>rt</strong></td>
<td>array: see schema</td>
<td>Yes</td>
<td>Read Write</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td><strong>Resource Type of the Resource</strong></td>
<td></td>
</tr>
<tr>
<td><strong>type</strong></td>
<td>array: see schema</td>
<td>No</td>
<td>Read Write</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td><strong>A hint at the representation of the resource referenced by the target URI. This represents the media types that are used for both accepting and emitting.</strong></td>
<td></td>
</tr>
<tr>
<td>Property</td>
<td>Type</td>
<td>Required</td>
<td>Read</td>
<td>Write</td>
</tr>
<tr>
<td>----------</td>
<td>------</td>
<td>----------</td>
<td>------</td>
<td>-------</td>
</tr>
<tr>
<td>object: see schema</td>
<td></td>
<td>No</td>
<td>Read</td>
<td>Write</td>
</tr>
<tr>
<td>anchor</td>
<td>string</td>
<td>No</td>
<td>Read</td>
<td>Write</td>
</tr>
<tr>
<td>title</td>
<td>string</td>
<td>No</td>
<td>Read</td>
<td>Write</td>
</tr>
<tr>
<td>ins</td>
<td>integer</td>
<td>No</td>
<td>Read</td>
<td>Write</td>
</tr>
</tbody>
</table>

**B.65.6 CRUDN behaviour**

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/GlucoseMeterAMResURI</td>
<td></td>
<td>get</td>
<td></td>
<td></td>
<td>observe</td>
</tr>
</tbody>
</table>

**B.66 Context Sample Location for Glucose Meter**

**B.66.1 Introduction**

This resource describes the properties associated with context Sample Location. AST means Alternative Site Test specifying that the location of test performed was from an alternative site on the body. The samplelocation Property is a read-only value that is provided by the server.

**B.66.2 Example URI**

/glucoseSampleLocationResURI

**B.66.3 Resource Type**

The resource type (rt) is defined as: ['oic.r.glucose.samplelocation'].

**B.66.4 Swagger2.0 Definition**

```json
{
  "swagger": "2.0",
  "info": {
    "title": "Context Sample Location for Glucose Meter",
    "version": "v1.1.0-20160519",
    "license": {
      "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved."
    },
    "x-description": "Redistribution and use in source and binary forms, with or without"
}
```
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"readOnly": true,
  "type": "number"
},
"value": {
  "anyOf": [
    { "type": "array"
    },
    { "type": "string"
    },
    { "type": "boolean"
    },
    { "type": "integer"
    },
    { "type": "number"
    },
    { "type": "object"
    }
  ],
  "description": "The value sensed or actuated by this Resource"
},
"n": {
  "description": "Friendly name of the resource",
  "maxLength": 64,
  "readOnly": true,
  "type": "string"
},
"range": {
  "description": "The valid range for the value Property",
  "items": {
    "anyOf": [
      { "type": "number"
      },
      { "type": "integer"
      }
    ]
  },
  "maxItems": 2,
  "minItems": 2,
  "readOnly": true,
  "type": "array"
},
"samplelocation": {
  "description": "The possible blood locations where the blood sample may be taken.",
  "enum": [
    "finger",
    "ast",
    "earlobe",
    "ctrlsolution"
  ],
  "readOnly": true,
  "type": "string"
},
"step": {

"anyOf": [  
  {  
    "type": "integer"  
  },  
  {  
    "type": "number"  
  }  
],  
"description": "Step value across the defined range",  
"readOnly": true
},
"id": {  
  "description": "Instance ID of this specific resource",  
  "maxLength": 64,  
  "readOnly": true,  
  "type": "string"
},
"if": {  
  "description": "The interface set supported by this resource",  
  "items": {  
    "enum": [  
      "oic.if.baseline",  
      "oic.if.ll",  
      "oic.if.b",  
      "oic.if.lb",  
      "oic.if.rw",  
      "oic.if.r",  
      "oic.if.a",  
      "oic.if.s"
    ],  
    "type": "string"
  },  
  "minItems": 1,  
  "readOnly": true,  
  "type": "array"
},

B.66.5 Property Definition

Table 369 The properties definitions of the resource

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>if</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>The interface set supported by this resource</td>
</tr>
<tr>
<td>value</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>Read Write</td>
<td>The value sensed or actuated by this Resource</td>
</tr>
<tr>
<td>id</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Instance ID of this specific resource</td>
</tr>
</tbody>
</table>
### B.66.6 CRUDN behaviour

<table>
<thead>
<tr>
<th>Property</th>
<th>Type</th>
<th>Access</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>step</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>Read Only Step value across the defined range</td>
</tr>
<tr>
<td>rt</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only Resource Type</td>
</tr>
<tr>
<td>range</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only The valid range for the value Property</td>
</tr>
<tr>
<td>precision</td>
<td>number</td>
<td>No</td>
<td>Read Only Accuracy granularity of the exposed value</td>
</tr>
<tr>
<td>n</td>
<td>string</td>
<td>No</td>
<td>Read Only Friendly name of the resource</td>
</tr>
<tr>
<td>samplelocation</td>
<td>string</td>
<td>Yes</td>
<td>Read Only The possible blood locations where the blood sample may be taken.</td>
</tr>
</tbody>
</table>

#### Table 370 The CRUDN operations of the resource

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/GlucoseSampleLocationResURI</td>
<td></td>
<td>get</td>
<td></td>
<td></td>
<td>observe</td>
</tr>
</tbody>
</table>

### B.67 Context Tester for Glucose Meter

#### B.67.1 Introduction

This resource describes the properties associated with context Tester. The tester Property is a read-only value that is provided by the server where especially hcp stands for HealthCare Professional.

#### B.67.2 Example URI

/GlucoseTesterResURI

#### B.67.3 Resource Type

The resource type (rt) is defined as: ["oic.r.glucose.tester"].

#### B.67.4 Swagger2.0 Definition

```json
{
    "swagger": "2.0",
    "info": {
        "title": "Context Tester for Glucose Meter",
        "version": "v1.1.0-20160519",
        "license": {
            "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved."
        }
    }
}
```

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{"schemes": ["http"],
"consumes": ["application/json"],
"produces": ["application/json"],
"paths": {
"/GlucoseTesterResURI": {
"get": {
"description": "This resource describes the properties associated with context Tester.
The tester Property is a read-only value that is provided by the server where especially\ncp stands for HealthCare Professional.
Retrieves Context Tester for Glucose Meter.
",
"parameters": [ ]
},
"responses": {
"200": {
"description": "",
"x-example": {
"rt": ["oic.r.glucose.Tester"],
"id": "unique_example_id",
"tester": "self"
}
},
"schema": { "$ref": "/definitions/GlucoseTester" }
}
}
"
},
"parameters": {
"interface": {
"in": "query",
"name": "if",
"type": "string",
"enum": ["oic.if.s", "oic.if.baseline"]
}
},
"definitions": {
"GlucoseTester": {
"properties": {
"rt": {
"description": "Resource Type",
"items": {
"maxLength": 64,
"type": "string"
},
"minItems": 1,
"readOnly": true,
"type": "array"
}
},
"tester": {
"description": "The possible cases of testers who may perform the blood sugar measurement.
",
"enum": ["self", "hcp", "lab"],
"readOnly": true,
"type": "string",
"precision": {
  "description": "Accuracy granularity of the exposed value",
  "readOnly": true,
  "type": "number"
},
"value": {
  "anyOf": [
    {"type": "array"},
    {"type": "string"},
    {"type": "boolean"},
    {"type": "integer"},
    {"type": "number"},
    {"type": "object"}
  ],
  "description": "The value sensed or actuated by this Resource"
},
"n": {
  "description": "Friendly name of the resource",
  "maxLength": 64,
  "readOnly": true,
  "type": "string"
},
"range": {
  "description": "The valid range for the value Property",
  "items": [
    {"anyOf": [
      {"type": "number"},
      {"type": "integer"}
    ]},
    {"maxItems": 2,
     "minItems": 2,
     "readOnly": true,
     "type": "array"}
  ],
  "step": {
    "anyOf": [
      {"type": "integer"},
      {"type": "number"}
    ]}
B.67.5 Property Definition

Table 371 The properties definitions of the resource

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>tester</td>
<td>string</td>
<td>Yes</td>
<td>Read Only</td>
<td>The possible cases of testers who may perform the blood sugar measurement.</td>
</tr>
<tr>
<td>range</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>The valid range for the value Property</td>
</tr>
<tr>
<td>step</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>Step value across the defined range</td>
</tr>
<tr>
<td>precision</td>
<td>number</td>
<td>No</td>
<td>Read Only</td>
<td>Accuracy granularity of the exposed value</td>
</tr>
<tr>
<td>value</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>Read Write</td>
<td>The value sensed or actuated by this Resource</td>
</tr>
<tr>
<td>-------------</td>
<td>----------------------------</td>
<td>----</td>
<td>------------</td>
<td>---------------------------------------------</td>
</tr>
<tr>
<td>rt</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>Resource Type</td>
</tr>
<tr>
<td>n</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Friendly name of the resource</td>
</tr>
<tr>
<td>id</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Instance ID of this specific resource</td>
</tr>
<tr>
<td>if</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>The interface set supported by this resource</td>
</tr>
</tbody>
</table>

**B.67.6 CRUDN behaviour**

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/GlucoseTesterResURI</td>
<td>get</td>
<td></td>
<td></td>
<td></td>
<td>observe</td>
</tr>
</tbody>
</table>

**B.68 Grinder**

**B.68.1 Introduction**

This resource describes the attributes associated with a grinder. The coarseness of the grounds is an integer. The higher the value, the less coarse. Remaining is a percentage that represents the unground material left.

**B.68.2 Example URI**

/GrinderResURI

**B.68.3 Resource Type**

The resource type (rt) is defined as: ['oic.r.grinder'].

**B.68.4 Swagger2.0 Definition**

```json
{
  "swagger": "2.0",
  "info": {
    "title": "Grinder",
    "version": "v1.1.0-20170815",
    "license": {
      "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved."
    }
  }
}
```

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Copyright Open Connectivity Foundation, Inc. © 2016-18. All rights Reserved
"schemes": ["http"],
"consumes": ["application/json"],
"produces": ["application/json"],
"paths": {
  "/GrinderResURI": {
    "get": {
      "description": "This resource describes the attributes associated with a grinder. The coarseness of the grounds is an integer. The higher the value, the less coarse. remaining is a percentage that represents the unground material left.
Retrieves the state of a grinder.
",
      "parameters": [
        {
          "$ref": "#/parameters/interface"
        }
      ],
      "responses": {
        "200": {
          "description": "",
          "x-example": {
            "rt": ["oic.r.grinder"],
            "id": "unique_example_id",
            "coarseness": 10,
            "remaining": 50
          }
        }
      }
    },
    "post": {
      "description": "Sets grinding values",
      "parameters": [
        {
          "$ref": "#/parameters/interface"
        },
        {
          "name": "body",
          "in": "body",
          "required": true,
          "schema": { "$ref": "#/definitions/GrinderUpdate" },
          "x-example": {
            "id": "unique_example_id",
            "coarseness": 10
          }
        }
      ],
      "responses": {
        "200": {
          "description": "",
          "x-example": {
            "id": "unique_example_id",
            "coarseness": 10
          }
        }
      }
    }
  }
},
"parameters": {
  "interface": {
    "in": "query",
    "name": "if",
    "type": "string",
    "enum": ["oic.if.rw", "oic.if.baseline"]
  }
},
"definitions": {
"Grinder" : {
  "properties": {
    "coarseness" : {
      "description": "The desired coarseness when grinding.",
      "type": "integer"
    },
    "rt" : {
      "description": "Resource Type",
      "items": {
        "type": "string"
      },
      "minItems": 1,
      "readOnly": true,
      "type": "array"
    },
    "remaining" : {
      "description": "The percentage of unground material left.",
      "maximum": 100,
      "minimum": 0,
      "readOnly": true,
      "type": "integer"
    },
    "precision" : {
      "description": "Accuracy granularity of the exposed value",
      "readOnly": true,
      "type": "number"
    },
    "value" :
      "anyOf": [
        {
          "type": "array"
        },
        {
          "type": "string"
        },
        {
          "type": "boolean"
        },
        {
          "type": "integer"
        },
        {
          "type": "number"
        },
        {
          "type": "object"
        }
      ],
      "description": "The value sensed or actuated by this Resource"
    },
    "n" :
      "description": "Friendly name of the resource",
      "maxLength": 64,
      "readOnly": true,
      "type": "string"
    },
    "range" : {
      "minimum": 0,
      "maximum": 100,
      "readOnly": true,
      "type": "integer"
    }
  }
}
"description": "The valid range for the value Property",
"items": [
  "anyOf": [
  
  
    "type": "number"
  ],
  
  "type": "integer"
],

"maxItems": 2,
"minItems": 2,
"readOnly": true,
"type": "array"
},

"step": {
"anyOf": [

  "type": "integer"
],

"type": "number"
}

"description": "Step value across the defined range",
"readOnly": true
},

"id": {
"description": "Instance ID of this specific resource",
"maxLength": 64,
"readOnly": true,
"type": "string"
},

"if": {
"description": "The interface set supported by this resource",
"items": {
"enum": [
  "oic.if.baseline",
  "oic.if.ll",
  "oic.if.b",
  "oic.if.lb",
  "oic.if.rw",
  "oic.if.r",
  "oic.if.a",
  "oic.if.s"
],

"type": "string"
},

"minItems": 1,
"readOnly": true,
"type": "array"
}

"type": "object"
,"required": ["coarseness"

"GrinderUpdate": {
"properties": {
"coarseness": {

"description": "The desired coarseness when grinding.",
"type": "integer"
"rt": {
  "description": "Resource Type",
  "items": {
    "maxLength": 64,
    "type": "string"
  },
  "minItems": 1,
  "readOnly": true,
  "type": "array"
},

"precision": {
  "description": "Accuracy granularity of the exposed value",
  "readOnly": true,
  "type": "number"
},

"value": {
  "anyOf": [
    {
      "type": "array"
    },
    {
      "type": "string"
    },
    {
      "type": "boolean"
    },
    {
      "type": "integer"
    },
    {
      "type": "number"
    },
    {
      "type": "object"
    }
  ],
  "description": "The value sensed or actuated by this Resource"
},

"n": {
  "description": "Friendly name of the resource",
  "maxLength": 64,
  "readOnly": true,
  "type": "string"
},

"range": {
  "description": "The valid range for the value Property",
  "items": {
    "anyOf": [
      {
        "type": "number"
      },
      {
        "type": "integer"
      }
    ]
  },
  "maxItems": 2,
  "minItems": 2,
  "readOnly": true,
  "type": "array"


B.68.5 Property Definition

Table 373 The properties definitions of the resource

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>precision</td>
<td>number</td>
<td>No</td>
<td>Read Only</td>
<td>Accuracy granularity of the exposed value</td>
</tr>
<tr>
<td>n</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Friendly name of the resource</td>
</tr>
<tr>
<td>if</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td></td>
</tr>
</tbody>
</table>

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<table>
<thead>
<tr>
<th>Name</th>
<th>Type</th>
<th>Access</th>
<th>Property</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>value</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>Read Write</td>
<td>The interface set supported by this resource</td>
</tr>
<tr>
<td>range</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>The valid range for the value Property</td>
</tr>
<tr>
<td>coarseness</td>
<td>integer</td>
<td>Yes</td>
<td>Read Write</td>
<td>The desired coarseness when grinding.</td>
</tr>
<tr>
<td>id</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Instance ID of this specific resource</td>
</tr>
<tr>
<td>rt</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>Resource Type</td>
</tr>
<tr>
<td>step</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>Step value across the defined range</td>
</tr>
<tr>
<td>remaining</td>
<td>integer</td>
<td>No</td>
<td>Read Only</td>
<td>The percentage of unground material left.</td>
</tr>
<tr>
<td>precision</td>
<td>number</td>
<td>No</td>
<td>Read Only</td>
<td>Accuracy granularity of the exposed value</td>
</tr>
<tr>
<td>n</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Friendly name of the resource</td>
</tr>
<tr>
<td>if</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>The interface set supported by this resource</td>
</tr>
<tr>
<td>value</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>Read Write</td>
<td>The value sensed or actuated by this Resource</td>
</tr>
<tr>
<td>range</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>The valid range for the value Property</td>
</tr>
<tr>
<td>coarseness</td>
<td>integer</td>
<td>Yes</td>
<td>Read Write</td>
<td>The desired coarseness when grinding.</td>
</tr>
<tr>
<td>id</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td></td>
</tr>
</tbody>
</table>
B.68.6 CRUDN behaviour

Table 374 The CRUDN operations of the resource

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/GrinderResURI</td>
<td>get</td>
<td>post</td>
<td></td>
<td></td>
<td>observe</td>
</tr>
</tbody>
</table>

B.69 Heart Rate Zone

B.69.1 Introduction

This resource describes a measured heart rate by the current Zone using the Zoladz method.
The Zoladz method defines Zones based on maximum heart rate; Zone 1 is the lowest, Zone 5 is
the highest.
The heartRateZone is an enumeration containing one of: "Zone1", "Zone2", "Zone3", "Zone4", "Zone5".

B.69.2 Example URI

/HeartRateZoneResURI

B.69.3 Resource Type

The resource type (rt) is defined as: ['oic.r.sensor.heart.zone'].

B.69.4 Swagger2.0 Definition

```json
{
  "swagger": "2.0",
  "info": {
    "title": "Heart Rate Zone",
    "version": "v1.1.0-20160519",
    "license": {
      "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
      "x-description": "Redistribution and use in source and binary forms, with or without
  modification, are permitted provided that the following conditions are met:

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     the following disclaimer.
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  HOWEVER CAUSED AND
  ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR
  OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY
  OF SUCH DAMAGE."
  }
}
```

<table>
<thead>
<tr>
<th>rt</th>
<th>array: see schema</th>
<th>No</th>
<th>Read Only</th>
<th>Instance ID of this specific resource</th>
</tr>
</thead>
<tbody>
<tr>
<td>step</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>Resource Type</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Step value across the defined range</td>
</tr>
</tbody>
</table>

"get": {
  "description": "This resource describes a measured heart rate by the current Zone using the Zoladz method. The Zoladz method defines Zones based on maximum heart rate; Zone 1 is the lowest, Zone 5 is the highest. The heartRateZone is an enumeration containing one of: Zone1", Zone2", Zone3", Zone4", Zone5".
  "parameters": [
    {
      "$ref": "#/parameters/interface"
    },
    "responses": {
      "200": {
        "description": "",
        "x-example": {
          "rt": ["oic.r.sensor.heart.zone"],
          "id": "unique_example_id",
          "heartRateZone": "Zone3"
        }
      },
      "schema": { "$ref": "#/definitions/heartRateZone" }
    }
  }
},
"parameters": {
  "interface": {
    "in": "query",
    "name": "if",
    "type": "string",
    "enum": ["oic.if.s", "oic.if.baseline"]
  }
},
"definitions": {
  "heartRateZone": {
    "properties": {
      "rt": {
        "description": "Resource Type",
        "items": {
          "maxLength": 64,
          "type": "string"
        },
        "minItems": 1,
        "readOnly": true,
        "type": "array"
      },
      "step": {
        "anyOf": [
          {
            "type": "integer"
          },
          {
            "type": "number"
          }
        ],
        "description": "Step value across the defined range",
        "readOnly": true
      },
      "precision": {
        "description": "Accuracy granularity of the exposed value",
        "readOnly": true,
        "type": "number"
      },
      "value": {
        "anyOf": [

```
"value": {
  "type": "array",
  "items": [
    {
      "type": "string"
    },
    {
      "type": "boolean"
    },
    {
      "type": "integer"
    },
    {
      "type": "number"
    },
    {
      "type": "object"
    }
  ]
},
"description": "The value sensed or actuated by this Resource",
"n": {
  "description": "Friendly name of the resource",
  "maxLength": 64,
  "readOnly": true,
  "type": "string"
},
"range": {
  "description": "The valid range for the value Property",
  "items": [ {
    "anyOf": [
      {
        "type": "number"
      },
      {
        "type": "integer"
      }
    ]
  },
  "maxItems": 2,
  "minItems": 2,
  "readOnly": true,
  "type": "array"
},
"id": {
  "description": "Instance ID of this specific resource",
  "maxLength": 64,
  "readOnly": true,
  "type": "string"
},
"heartRateZone": {
  "description": "Current heart rate zone based on the Zoladz system.",
  "enum": [ "Zone1", "Zone2", "Zone3", "Zone4", "Zone5"
  ],
  "readOnly": true,
  "type": "string"
}
B.69.5 Property Definition

Table 375 The properties definitions of the resource

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>if</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>The interface set supported by this resource</td>
</tr>
<tr>
<td>value</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>Read Write</td>
<td>The value sensed or actuated by this Resource</td>
</tr>
<tr>
<td>id</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Instance ID of this specific resource</td>
</tr>
<tr>
<td>rt</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>Resource Type</td>
</tr>
<tr>
<td>heartRateZone</td>
<td>string</td>
<td>Yes</td>
<td>Read Only</td>
<td>Current heart rate zone based on the Zoladz system.</td>
</tr>
<tr>
<td>range</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>The valid range for the value Property</td>
</tr>
<tr>
<td>step</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>Step value across the defined range</td>
</tr>
<tr>
<td>n</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td></td>
</tr>
</tbody>
</table>
### Table 376 The CRUDN operations of the resource

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/HeartRateZoneResURI</td>
<td>get</td>
<td></td>
<td></td>
<td></td>
<td>observe</td>
</tr>
</tbody>
</table>

#### B.70 Heating Zone

##### B.70.1 Introduction

This Resource provides information about the status of a heating zone of a Cook-Top. It describes the case of a Cook-Top whose zones can be activated dynamically (i.e. the device implements pot recognition).

- `maxheatinglevel` defines the max level for the heating zone
- `heatinglevel` is the current heating level of the zone. For each element the value range is from 0 (indication that the zone is not heating) to `maxheatinglevel`,

##### B.70.2 Example URI

`/HeatingZoneResURI`

##### B.70.3 Resource Type

The resource type (rt) is defined as: `[oic.r.heatingzone]`.

##### B.70.4 Swagger2.0 Definition

```json
{
  "swagger": "2.0",
  "info": {
    "title": "Heating Zone",
    "version": "OCF1.0-20160722",
    "license": {
      "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
      "x-description": "Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met: 1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer. 2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution. THIS SOFTWARE IS PROVIDED BY THE Open Connectivity Foundation, INC. \"AS IS\" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR WARRANTIES OF NON-INFRINGEMENT, ARE DISCLAIMED. IN NO EVENT SHALL THE Open Connectivity Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE."
    }
  },
  "schemes": ["http"],
  "consumes": ["application/json"],
  "produces": ["application/json"],
  "paths": {
    "/HeatingZoneResURI": {
      "get": {
        "description": "This Resource provides information about the status of a heating zone of a Cook-Top. It describes the case of a Cook-Top whose zones can be activated dynamically (i.e. the device implements pot recognition)."
      }
    }
  }
}
```
device implements pot recognition). \( \text{maxheatinglevel} \) defines the max level for the heating
zone. \( \text{heatinglevel} \) is the current heating level of the zone. For each element the value range is
from 0 (indication that the zone is not heating) to \( \text{maxheatinglevel} \). Retrieves the current heating
zone information.

```
"parameters": [
  {"$ref": "#/parameters/interface"}
],
"responses": {
  "200": {
    "description": "",
    "x-example": {
      "rt": ["oic.r.heatingzone"],
      "id": "unique_example_id",
      "maxheatinglevel": 6,
      "heatinglevel": 0
    }
  }
  
  "schema": { "$ref": "#/definitions/HeatingZone" }
}
```

```
"parameters": {
  "interface": {
    "in": "query",
    "name": "if",
    "type": "string",
    "enum": ["oic.if.s", "oic.if.baseline"]
  }
},
"definitions": {
  "HeatingZone": {
    "properties": {
      "rt": {
        "description": "Resource Type",
        "items": {
          "maxLength": 64,
          "type": "string"
        },
        "minItems": 1,
        "readOnly": true,
        "type": "array"
      },
      "step": {
        "anyOf": [
        {
          "type": "integer"
        },
        {
          "type": "number"
        }
      ],
      "description": "Step value across the defined range",
      "readOnly": true
    },
    "id": {
      "description": "Instance ID of this specific resource",
      "maxLength": 64,
      "readOnly": true,
      "type": "string"
    },
    "precision": {
    }
"description": "Accuracy granularity of the exposed value",
"readOnly": true,
"type": "number"
},

"value" : 
{
"anyOf": [ 
{
"type": "array"
}, 
{
"type": "string"
}, 
{
"type": "boolean"
}, 
{
"type": "integer"
}, 
{
"type": "number"
}, 
{
"type": "object"
}
],
"description": "The value sensed or actuated by this Resource"
},

"s" : 
{
"description": "Friendly name of the resource",
"maxLength": 64,
"readOnly": true,
"type": "string"
},

"range" : 
{
"description": "The valid range for the value Property",
"items": [ 

"anyOf": [ 
{
"type": "number"
}, 
{
"type": "integer"
}
] 
],
"maxItems": 2,
"minItems": 2,
"readOnly": true,
"type": "array"
},

"heatinglevel" : 
{
"description": "Current heating level for the zone indicated.",
"readOnly": true,
"type": "integer"
},

"maxheatinglevel" : 
{
"description": "Maximum heating level for the zone indicated.",
"readOnly": true,
"type": "integer"
}
}
"if":
{
   "description": "The interface set supported by this resource",
   "items": {
      "enum": [
         "oic.if.baseline",
         "oic.if.ll",
         "oic.if.b",
         "oic.if.lb",
         "oic.if.rw",
         "oic.if.lb",
         "oic.if.a",
         "oic.if.s"
      ],
      "type": "string"
   },
   "minItems": 1,
   "readOnly": true,
   "type": "array"
}
}

B.70.5 Property Definition

Table 377 The properties definitions of the resource

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>id</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Instance ID of this specific resource</td>
</tr>
<tr>
<td>maxheatinglevel</td>
<td>integer</td>
<td>Yes</td>
<td>Read Only</td>
<td>Maximum heating level for the zone indicated.</td>
</tr>
<tr>
<td>step</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>Step value across the defined range</td>
</tr>
<tr>
<td>value</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>Read Write</td>
<td>The value sensed or actuated by this Resource</td>
</tr>
<tr>
<td>precision</td>
<td>number</td>
<td>No</td>
<td>Read Only</td>
<td>Accuracy granularity of the exposed value</td>
</tr>
<tr>
<td>heatinglevel</td>
<td>integer</td>
<td>Yes</td>
<td>Read Only</td>
<td>Current heating level for the zone indicated.</td>
</tr>
<tr>
<td>range</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td></td>
</tr>
</tbody>
</table>
The valid range for the value Property
if array: see schema No Read Only The interface set supported by this resource
rt array: see schema No Read Only Resource Type
n string No Read Only Friendly name of the resource

Table 378 The CRUDN operations of the resource

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/HeatingZoneResURI</td>
<td>get</td>
<td></td>
<td></td>
<td></td>
<td>observe</td>
</tr>
</tbody>
</table>

B.71 Heating Zone Collection

B.71.1 Introduction

This Resource provides information about the status of the heating zones of a Cook-Top. It describes the case of a Cook-Top whose zones can be activated dynamically (i.e. the device implements pot recognition).

The resource is a collection of instances of oic.r.heatingzone detailing the individual cooktop zones

B.71.2 Example URI

/HeatingZoneResURI

B.71.3 Resource Type

The resource type (rt) is defined as: ['oic.r.heatingzonecollection', 'oic.wk.col']

B.71.4 Swagger2.0 Definition

```json
{
    "swagger": "2.0",
    "info": {
        "title": "Heating Zone Collection",
        "version": "OCF1.0-20160722",
        "license": {
            "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
            "x-description": "Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:\n            1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.\n            2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.\n            THIS SOFTWARE IS PROVIDED BY THE Open Connectivity Foundation, INC. "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR WARRANTIES OF NON-INFRINGEMENT, ARE DISCLAIMED.\n            IN NO EVENT SHALL THE Open Connectivity Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)\n            HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE."
        }
    },
    "schemes": ["http"],
}
"consumes": ["application/json"],
"produces": ["application/json"],
"paths": {
"/HeatingZoneResURI?if=oic.if.ll": {
"get": {
"description": "This Resource provides information about the status of the heating zones of a Cook-Top. It describes the case of a Cook-Top whose zones can be activated dynamically (i.e. the device implements pot recognition). The resource is a collection of instances of oic.r.heatingzone detailing the individual cooktop zones."
"parameters": [
{"$ref": "/#parameters/interface-ll"}
],
"responses": {
"200": {
"description": ",
"x-example": {
["href": "/myZone1ResURI", "rt": ["oic.r.heatingzone"], "if": ["oic.if.s"],
"eps": [{"ep": "coaps://[fe80::b1d6]:1122"]}],
["href": "/myZone2ResURI", "rt": ["oic.r.heatingzone"], "if": ["oic.if.s"],
"eps": [{"ep": "coaps://[fe80::b1d6]:1122"]}],
["href": "/myZone3ResURI", "rt": ["oic.r.heatingzone"], "if": ["oic.if.s"],
"eps": [{"ep": "coaps://[fe80::b1d6]:1122"]}],
["href": "/myZone4ResURI", "rt": ["oic.r.heatingzone"], "if": ["oic.if.s"],
"eps": [{"ep": "coaps://[fe80::b1d6]:1122"]}]
]
"schema": { "$ref": "/#definitions/HeatingZone-ll" }
}
}
},
"/HeatingZoneResURI?if=oic.if.baseline": {
"get": {
"description": "This Resource provides information about the status of the heating zones of a Cook-Top. It describes the case of a Cook-Top whose zones can be activated dynamically (i.e. the device implements pot recognition). The resource is a collection of instances of oic.r.heatingzone detailing the individual cooktop zones."
"parameters": [
{"$ref": "/#parameters/interface-baseline"}
],
"responses": {
"200": {
"description": ",
"x-example": {
["rt": ["oic.r.heatingzonecollection","oic.wk.col"],
"id": "unique_example_id",
"links": {["href": "/myZone1ResURI", "rt": ["oic.r.heatingzone"], "if": ["oic.if.s","oic.if.baseline"],
"eps": [{"ep": "coaps://[fe80::b1d6]:1122"]}],
["href": "/myZone2ResURI", "rt": ["oic.r.heatingzone"], "if": ["oic.if.s","oic.if.baseline"],
"eps": [{"ep": "coaps://[fe80::b1d6]:1122"]}],
["href": "/myZone3ResURI", "rt": ["oic.r.heatingzone"], "if": ["oic.if.s","oic.if.baseline"],
"eps": [{"ep": "coaps://[fe80::b1d6]:1122"]}],
["href": "/myZone4ResURI", "rt": ["oic.r.heatingzone"], "if": ["oic.if.s","oic.if.baseline"],
"eps": [{"ep": "coaps://[fe80::b1d6]:1122"]}]
]
"schema": { "$ref": "/#definitions/HeatingZone" }
}
}
}
"enum": ["oic.if.ll"],
"interface-baseline": {
  "in": "query",
  "name": "if",
  "type": "string",
  "enum": ["oic.if.baseline"]
},
"interface-all": {
  "in": "query",
  "name": "if",
  "type": "string",
  "enum": ["oic.if.ll", "oic.if.baseline"]
}
"definitions": {
  "HeatingZone-ll": {
    "title": "Heating Zone Collection Link List Schema (auto merged)"
  },
  "$ref": "#/definitions/oic.oic-link"
}
},
"type": "array"
}
},
"HeatingZone": {
  "properties": {
    "rt": {
      "items": {
        "enum": ["oic.r.heatingzonecollection", "oic.wk.col"],
        "type": "string"
      },
      "maxItems": 2,
      "minItems": 2,
      "uniqueItems": true
    },
    "links": {
      "description": "A set of simple or individual OIC Links."
    }
  }
},
"description": "This is used to override the context URI e.g. override the URI of the containing collection.",
  "format": "uri",
  "maxLength": 256,
  "type": "string"
},
"di": {
  "description": "The Device ID formatted according to IETF RFC 4122.",
  "pattern": "^[a-fA-F0-9]{8}-(a-fA-F0-9){4}-(a-fA-F0-9){4}-(a-fA-F0-9){4}-(a-fA-F0-9){12}\$",
  "type": "string"
},
"eps": {
  "description": "the Endpoint information of the target Resource",
  "items": {
    "properties": {
      "anchor": {
        "description": "Transport Protocol Suite + Endpoint Locator",
        "type": "string"
      }
    }
  }
}
"format": "uri",
"type": "string"
},
"pri": {
  "description": "The priority among multiple Endpoints",
  "minimum": 1,
  "type": "integer"
}
},
  "type": "object"
},
"href": {
  "description": "This is the target URI, it can be specified as a Relative Reference or fully-qualified URI.",
  "format": "uri",
  "maxLength": 256,
  "type": "string"
},
"if": {
  "description": "The interface set supported by this resource",
  "items": {
    "enum": ["oic.if.baseline", "oic.if.ll", "oic.if.b", "oic.if.rw", "oic.if.r", "oic.if.a", "oic.if.s"],
    "type": "string"
  },
  "minItems": 1,
  "type": "array"
},
"ins": {
  "description": "The instance identifier for this web link in an array of web links used in collections",
  "type": "integer"
},

"p": {
  "description": "Specifies the framework policies on the Resource referenced by the target URI",
  "properties": {
    "bm": {
      "description": "Specifies the framework policies on the Resource referenced by the target URI for e.g. observable and discoverable",
      "type": "integer"
    }
  }
},

"required": ["bm"],
"type": "object"
},
"rel": {
  "description": "The relation of the target URI referenced by the link to the context URI",
  "oneOf": [
    { "default": ["hosts"], "items": {"maxLength": 64, "type": "string"}, "minItems": 1, "type": "array"}]}
"default": "hosts",
"maxLength": 64,
"type": "string"
}
],
"rt": {
  "description": "Resource Type of the Resource",
  "items": {
    "maxLength": 64,
    "type": "string"
  },
  "minItems": 1,
  "type": "array"
},
"title": {
  "description": "A title for the link relation. Can be used by the UI to provide a
  context.",
  "maxLength": 64,
  "type": "string"
},
"type": {
  "default": "application/cbor",
  "description": "A hint at the representation of the resource referenced by the
target URI. This represents the media types that are used for both accepting and emitting.",
  "items": {
    "maxLength": 64,
    "type": "string"
  },
  "minItems": 1,
  "type": "array"
}
},
"required": [
  "href",
  "rt",
  "if"
],
"type": "object"
},
"type": "array"
},
"n": {
  "description": "Friendly name of the resource",
  "maxLength": 64,
  "readOnly": true,
  "type": "string"
},
"rts": {
  "items": {
    "anyOf": [
      "enum": [
        "oic.r.heatingzone",
        "oic.r.value.conditional"
      ],
      "type": "string"
    ],
    "enum": [
      "oic.r.heatingzone",
      "oic.r.value.conditional"
    ],
    "type": "string"
  }
}
{ "maxItems": 2, "minItems": 1, "type": "array", "uniqueItems": true },
"id": {
"description": "Instance ID of this specific resource",
"maxLength": 64,
"readOnly": true,
"type": "string"
},
"if": {
"description": "The interface set supported by this resource",
"items": [
"enum": [
"oic.if.baseline",
"oic.if.ll",
"oic.if.b",
"oic.if.lb",
"oic.if.rw",
"oic.if.z",
"oic.if.a",
"oic.if.s"
],
"type": "string"
],
"minItems": 1,
"readOnly": true,
"type": "array"
}
},
"type": "object"
}
,"oic.collection.links.arrayoflinks": {
"properties": {
"links": {
"description": "A set of simple or individual OIC Links.",
"items": {
"properties": {
"anchor": {
"description": "This is used to override the context URI e.g. override the URI of the containing collection.",
"format": "uri",
"maxLength": 256,
"type": "string"
},
"di": {
"description": "The Device ID formatted according to IETF RFC 4122.",
"pattern": "^[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{12}$",
"type": "string"
},
"eps": {
"description": "the Endpoint information of the target Resource",
"items": {
"properties": {
"ep": {
"description": "Transport Protocol Suite + Endpoint Locator",
"format": "uri",
"type": "string"
},
"pri": {
"description": "The priority among multiple Endpoints",
"minimum": 1,
"type": "integer"
},
  "type": "object"
},
  "type": "array"
},
  "href": {
    "description": "This is the target URI, it can be specified as a Relative Reference or fully-qualified URI."
  },
  "format": "uri",
  "maxLength": 256,
  "type": "string"
},
  "if": {
    "description": "The interface set supported by this resource",
    "items": {
      "enum": [
        "oic.if.baseline",
        "oic.if.ll",
        "oic.if.b",
        "oic.if_rw",
        "oic.if.r",
        "oic.if.a",
        "oic.if.s"
      ],
      "type": "string"
    },
    "minItems": 1,
    "type": "array"
  },
  "ins": {
    "description": "The instance identifier for this web link in an array of web links - used in collections",
    "type": "integer"
  },
  "p": {
    "description": "Specifies the framework policies on the Resource referenced by the target URI",
    "properties": {
      "bm": {
        "description": "Specifies the framework policies on the Resource referenced by the target URI for e.g. observable and discoverable",
        "type": "integer"
      }
    },
    "required": ["bm"],
    "type": "object"
  },
  "rel": {
    "description": "The relation of the target URI referenced by the link to the context URI",
    "oneOf": [
      {
        "default": ["hosts"],
        "items": {
          "maxLength": 64,
          "type": "string"
        },
        "minItems": 1,
        "type": "array"
      },
      {
        "default": "hosts",
        "maxLength": 64,
        "type": "string"
      }
    ]}
"rt": {  
  "description": "Resource Type of the Resource",  
  "items": {  
    "maxLength": 64,  
    "type": "string"  
  },  
  "minItems": 1,  
  "type": "array"  
},  
"title": {  
  "description": "A title for the link relation. Can be used by the UI to provide a context.",  
  "maxLength": 64,  
  "type": "string"  
},  
"type": {  
  "default": "application/cbor",  
  "description": "A hint at the representation of the resource referenced by the target URI. This represents the media types that are used for both accepting and emitting.",  
  "items": {  
    "maxLength": 64,  
    "type": "string"  
  },  
  "minItems": 1,  
  "type": "array"  
}  
},  
"required": [  
  "href",  
  "rt",  
  "if"  
],  
"type": "object"  
}  
}  
"heatingzonecollection-ll":  
{  
  "items": {  
    "$ref": "#/definitions/oic.oic-link"  
  },  
  "type": "array"  
}  
,"oic.core":  
{  
  "properties": {  
    "id": {  
      "description": "Instance ID of this specific resource",  
      "maxLength": 64,  
      "readOnly": true,  
      "type": "string"  
    },  
    "if": {  
      "description": "The interface set supported by this resource",  
      "items": [  
        "oic.if.baseline",  
        "oic.if.ll",  
        "oic.if.b",  
        "oic.if.lb",  
        "oic.if.rw",  
        "oic.if.r",  
        "oic.if.a",  
        "oic.if.s"  
      ],  
      "enum": [  
        "oic.if.baseline",  
        "oic.if.ll",  
        "oic.if.b",  
        "oic.if.lb",  
        "oic.if.rw",  
        "oic.if.r",  
        "oic.if.a",  
        "oic.if.s"  
      ]  
    }  
  }  
}
"type": "string",
"minItems": 1,
"readOnly": true,
"type": "array"
},
"n": {
"description": "Friendly name of the resource",
"maxLength": 64,
"readOnly": true,
"type": "string"
},
"rt": {
"description": "Resource Type",
"items": {
"maxLength": 64,
"type": "string"
},
"minItems": 1,
"readOnly": true,
"type": "array"
}
,"type": "object"
],
"oic.r.heatingzonecollection": {
"properties": {
"rt": {
"items": {
"enum": [
"oic.r.heatingzonecollection",
"oic.wk.col"
],
"type": "string"
},
"maxItems": 2,
"minItems": 2,
"type": "array",
"uniqueItems": true
},
"rts": {
"items": {
"anyOf": [
{
"enum": [
"oic.r.heatingzone",
"oic.r.value.conditional"
],
"type": "string"
},
{
"enum": [
"oic.r.heatingzone"
],
"type": "string"
}
]
},
"maxItems": 2,
"minItems": 1,
"type": "array",
"uniqueItems": true
}
,"type": "object"}
,"oic.collection.properties": {
}
"description": "A collection is a set of links along with additional properties to describe the collection itself",
"properties": {
  "rts": {
    "$ref": "#/definitions/oic.core/properties/rt",
    "description": "The list of allowable resource types (for Target and anchors) in links included in the collection"
  },
  "type": "object"
},
"oic.oic-link": {
  "properties": {
    "anchor": {
      "description": "This is used to override the context URI e.g. override the URI of the containing collection."
    },
    "format": "uri",
    "maxLength": 256,
    "type": "string"
  },
  "dl": {
    "description": "The Device ID formatted according to IETF RFC 4122."
  },
  "pattern": "^[a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{4}-[a-fA-F0-9]{12}+$",
  "type": "string"
},
"eps": {
  "description": "the Endpoint information of the target Resource",
  "items": {
    "properties": {
      "ep": {
        "description": "Transport Protocol Suite + Endpoint Locator",
        "format": "uri",
        "type": "string"
      }
    },
    "pri": {
      "description": "The priority among multiple Endpoints",
      "minimum": 1,
      "type": "integer"
    }
  },
  "type": "array"
},
"href": {
  "description": "This is the target URI, it can be specified as a Relative Reference or fully-qualified URI.",
  "format": "uri",
  "maxLength": 256,
  "type": "string"
},
"if": {
  "description": "The interface set supported by this resource",
  "items": {
    "enum": [
      "oic.if.baseline",
      "oic.if.ll",
      "oic.if.b",
      "oic.if.rw",
      "oic.if.r",
      "oic.if.a",
      "oic.if.s"
    ],
    "type": "string"
  },
  "minItems": 1,
  "type": "array"
}
"ins": {
  "description": "The instance identifier for this web link in an array of web links - used in collections",
  "type": "integer"
},
  "p": {
    "description": "Specifies the framework policies on the Resource referenced by the target URI",
  "properties": {
    "bm": {
      "description": "Specifies the framework policies on the Resource referenced by the target URI for e.g. observable and discoverable",
    "type": "integer"
    },
    "required": ["bm"
    ],
  },
  "rel": {
    "description": "The relation of the target URI referenced by the link to the context URI",
    "oneOf": [
      {"default": ["hosts"],
      "items": {
        "maxLength": 64,
        "type": "string"
      },
      "minItems": 1,
      "type": "array"
    },
    {"default": "hosts",
    "maxLength": 64,
    "type": "string"
    }
  ],
  "rt": {
    "description": "Resource Type of the Resource",
    "items": {
      "maxLength": 64,
      "type": "string"
    },
    "minItems": 1,
    "type": "array"
  },
  "title": {
    "description": "A title for the link relation. Can be used by the UI to provide a context.",
    "maxLength": 64,
    "type": "string"
  },
  "type": {
    "default": "application/cbor",
    "description": "A hint at the representation of the resource referenced by the target URI. This represents the media types that are used for both accepting and emitting",
    "items": {
      "maxLength": 64,
      "type": "string"
    },
    "minItems": 1,
    "type": "array"
  }
},
  "required": ["href"]
### B.71.5 Property Definition

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>rts</td>
<td>multiple types: see schema</td>
<td></td>
<td>Read Write</td>
<td>The list of allowable resource types (for Target and anchors) in links included in the collection</td>
</tr>
<tr>
<td>links</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Write</td>
<td>A set of simple or individual OIC Links.</td>
</tr>
<tr>
<td>rts</td>
<td>array: see schema</td>
<td></td>
<td>Read Write</td>
<td></td>
</tr>
<tr>
<td>rt</td>
<td>array: see schema</td>
<td></td>
<td>Read Write</td>
<td></td>
</tr>
<tr>
<td>type</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Write</td>
<td>A hint at the representation of the resource referenced by the target URI. This represents the media types that are used for both accepting and emitting.</td>
</tr>
<tr>
<td>anchor</td>
<td>string</td>
<td>No</td>
<td>Read Write</td>
<td>This is used to override the context URI e.g. override the URI of the containing collection.</td>
</tr>
<tr>
<td>rt</td>
<td>array: see schema</td>
<td>Yes</td>
<td>Read Write</td>
<td>Resource Type of the Resource</td>
</tr>
<tr>
<td>title</td>
<td>string</td>
<td>No</td>
<td>Read Write</td>
<td>A title for the link relation. Can be used by the UI to provide a context.</td>
</tr>
<tr>
<td>di</td>
<td>string</td>
<td>No</td>
<td>Read Write</td>
<td></td>
</tr>
<tr>
<td>p</td>
<td>object: see schema</td>
<td>No</td>
<td>Read Write</td>
<td>The Device ID formatted according to IETF RFC 4122.</td>
</tr>
<tr>
<td>------------</td>
<td>--------------------</td>
<td>-------</td>
<td>------------</td>
<td>-----------------------------------------------------</td>
</tr>
<tr>
<td>ins</td>
<td>integer</td>
<td>No</td>
<td>Read Write</td>
<td>Specifies the framework policies on the Resource referenced by the target URI</td>
</tr>
<tr>
<td>rel</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>Read Write</td>
<td>The instance identifier for this web link in an array of web links - used in collections</td>
</tr>
<tr>
<td>href</td>
<td>string</td>
<td>Yes</td>
<td>Read Write</td>
<td>The relation of the target URI referenced by the link to the context URI</td>
</tr>
<tr>
<td>if</td>
<td>array: see schema</td>
<td>Yes</td>
<td>Read Write</td>
<td>This is the target URI, it can be specified as a Relative Reference or fully-qualified URI.</td>
</tr>
<tr>
<td>eps</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Write</td>
<td>The interface set supported by this resource</td>
</tr>
<tr>
<td>id</td>
<td>string</td>
<td></td>
<td>Read Only</td>
<td>Instance ID of this specific resource</td>
</tr>
<tr>
<td>rt</td>
<td>array: see schema</td>
<td></td>
<td>Read Only</td>
<td>Resource Type</td>
</tr>
<tr>
<td>n</td>
<td>string</td>
<td></td>
<td>Read Only</td>
<td>Friendly name of the resource</td>
</tr>
<tr>
<td>if</td>
<td>array: see schema</td>
<td></td>
<td>Read Only</td>
<td>The interface set supported by this resource</td>
</tr>
<tr>
<td>id</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Create</td>
<td>Read</td>
<td>Update</td>
<td>Delete</td>
</tr>
<tr>
<td>---------------------------</td>
<td>--------</td>
<td>------</td>
<td>--------</td>
<td>--------</td>
</tr>
<tr>
<td>/HeatingZoneResURI</td>
<td>get</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**B.72 Height**

**B.72.1 Introduction**

This resource describes the properties associated with height of an object's physical size.

The unit is a single value that is one of m, cm, ft or in.

If the unit Property is missing the default is meters [m].

The unit Property is a read-only value that is provided by the server.

When range (from oic.r.baseresource) is omitted the default is 0 to +MAXFLOAT.

**B.72.2 Example URI**

/HeightResURI

**B.72.3 Resource Type**

The resource type (rt) is defined as: ['oic.r.height'].

**B.72.4 Swagger2.0 Definition**

```json
{
  "swagger": "2.0",
  "info": {
    "title": "Height",
    "version": "v1.0-20160519",
    "license": {
      "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
      "x-description": "Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.

THIS SOFTWARE IS PROVIDED BY THE Open Connectivity Foundation, INC. "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR WARRANTIES OF NON-INFRINGEMENT, ARE DISCLAIMED. IN NO EVENT SHALL THE Open Connectivity Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS FOR
```
"description": "This resource describes the properties associated with height of an object's physical size. The unit is a single value that is one of m, cm, ft or in. If the unit property is missing the default is meters [m]. The unit property is a read-only value that is provided by the server. When range (from oic.r.baseresource) is omitted the default is 0 to +MAXFLOAT. Retrieves height of an object.",

"parameters": [
  {
    "$ref": "#/parameters/interface"
  }
],

"responses": {
  "200": {
    "description": "Indicates that the height was successfully changed. The new height is provided in the response.",
    "x-example": {
      "id": "unique_example_id",
      "height": 1.8,
      "units": "m"
    }
  },
  "403": {
    "description": "Indicates that OCF client sent an invalid property value to the server. The server responds with the current resource representation.",
    "x-example": {
      "id": "unique_example_id",
      "height": 1.8,
      "units": "m"
    }
  }
}
"height": 1.8,
  "units": "m"
}

"schema": { "$ref": "/#definitions/Height" }

"parameters": {
  "interface": {
    "in": "query",
    "name": "if",
    "type": "string",
    "enum": ["oic.if.a", "oic.if.baseline"]
  }
}

"definitions": {
  "Height": {
    "properties": {
      "rt": {
        "description": "Resource Type",
        "items": {
          "maxLength": 64,
          "type": "string"
        },
        "minItems": 1,
        "readOnly": true,
        "type": "array"
      },
      "precision": {
        "description": "Accuracy granularity of the exposed value",
        "readOnly": true,
        "type": "number"
      },
      "value": {
        "anyOf": ["array", "string", "boolean", "integer", "number", "object"
          "description": "The value sensed or actuated by this Resource"
      },
      "n": {
        "description": "Friendly name of the resource",
        "maxLength": 64,
        "readOnly": true,
        "type": "string"
"units": {
  "description": "Height unit",
  "enum": [
    "m",
    "cm",
    "ft",
    "in"
  ],
  "readOnly": true,
  "type": "string"
},

"range": {
  "description": "The valid range for the value Property",
  "items": {
    "anyOf": [
      { "type": "number" },
      { "type": "integer" }
    ],
    "maxItems": 2,
    "minItems": 2,
    "readOnly": true,
    "type": "array"
  },
  "step": {
    "anyOf": [
      { "type": "integer" },
      { "type": "number" }
    ],
    "description": "Step value across the defined range",
    "readOnly": true
  },
  "height": {
    "description": "Height of an object",
    "minimum": 0,
    "type": "number"
  },
  "id": {
    "description": "Instance ID of this specific resource",
    "maxLength": 64,
    "readOnly": true,
    "type": "string"
  },
  "if": {
    "description": "The interface set supported by this resource",
    "items": [
      "oic.if.baseline",
      "oic.if.ll",
      "oic.if.b"
    ]
  }
}
### B.72.5 Property Definition

Table 381 The properties definitions of the resource

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>units</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Height unit</td>
</tr>
<tr>
<td>range</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>The valid range for the value Property</td>
</tr>
<tr>
<td>id</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Instance ID of this specific resource</td>
</tr>
<tr>
<td>precision</td>
<td>number</td>
<td>No</td>
<td>Read Only</td>
<td>Accuracy granularity of the exposed value</td>
</tr>
<tr>
<td>rt</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>Resource Type</td>
</tr>
<tr>
<td>if</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>The interface set supported by this resource</td>
</tr>
<tr>
<td>height</td>
<td>number</td>
<td>Yes</td>
<td>Read Write</td>
<td>Height of an object</td>
</tr>
<tr>
<td>step</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>Step value across the defined range</td>
</tr>
<tr>
<td>n</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Friendly name of the resource</td>
</tr>
<tr>
<td>value</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>Read Write</td>
<td>The value sensed or actuated by this Resource</td>
</tr>
</tbody>
</table>
B.72.6 CRUDN behaviour

Table 382 The CRUDN operations of the resource

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/HeightResURI</td>
<td></td>
<td>get</td>
<td>post</td>
<td></td>
<td>observe</td>
</tr>
</tbody>
</table>

B.73 Humidity

B.73.1 Introduction

This resource describes a sensed or desired humidity.

The value humidity is an integer describing the percentage measured relative humidity.

The value desiredHumidity is an integer showing the desired target relative humidity.

B.73.2 Example URI

/HeightResURI

B.73.3 Resource Type

The resource type (rt) is defined as: ['oic.r.humidity'].

B.73.4 Swagger2.0 Definition

```json
{
    "swagger": "2.0",
    "info": {
        "title": "Humidity",
        "version": "v1.1.0-20160519",
        "license": {
            "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
            "x-description": "Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.
3. THIS SOFTWARE IS PROVIDED BY THE Open Connectivity Foundation, INC. "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR WARRANTIES OF NON-INFRINGEMENT, ARE DISCLAIMED.
IN NO EVENT SHALL The Open Connectivity Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.",
        }
    },
    "schemes": ["http"],
    "consumes": ["application/json"],
    "produces": ["application/json"],
    "paths": {
        "/HumidityResURI": {
            "get": {
                "description": "This resource describes a sensed or desired humidity. The value humidity is an integer describing the percentage measured relative humidity. The value desiredHumidity is an integer showing the desired target relative humidity. Retrieves the current (relative) humidity level."
            },
            "parameters": {
                "$ref": "#/parameters/interface"
            },
            "responses": {
                "200": {
                    "description": "",
                    "x-example": {
                        "rt": ["oic.r.humidity"],
                        "id": "unique_example_id",
                    }
                }
            }
        }
    }
}
```
"humidity": 40,
"desiredHumidity": 40
}

"schema": { "$ref": "#/definitions/Humidity" }

"post": {
"description": "Sets the desired relative humidity level.
"parameters": [
{ "$ref": "#/parameters/interface"},

{ "name": "body",
"in": "body",
"required": true,
"schema": { "$ref": "#/definitions/HumidityUpdate" },
"x-example": {
 "id": "unique_example_id",
 "desiredHumidity": 45
}
}

"responses": {
 "200": {
 "description": "Indicates that the relative humidity level was changed. The new relative humidity level is provided in the response.
"x-example": {
 "id": "unique_example_id",
 "desiredHumidity": 45
}
}

"parameters": {
 "interface": {
 "in": "query",
 "name": "if",
 "type": "string",
 "enum": ["oic.if.a", "oic.if.s", "oic.if.baseline"]
}

"definitions": {
 "Humidity": {
 "properties": {
 "id": {
 "description": "Resource Type",
 "items": {
 "maxLength": 64,
 "type": "string"
 },
 "minItems": 1,
 "readOnly": true,
 "type": "array"
 },

 "desiredHumidity": {
 "description": "Desired value for Humidity",
 "maximum": 100,
 "minimum": 0,
 "type": "integer"
 }

}
"precision" :
        {
            "description": "Accuracy granularity of the exposed value",
            "readOnly": true,
            "type": "number"
        },
"value" :
        {
            "anyOf": [
                {
                    "type": "array"
                },
                {
                    "type": "string"
                },
                {
                    "type": "boolean"
                },
                {
                    "type": "integer"
                },
                {
                    "type": "number"
                },
                {
                    "type": "object"
                }],
            "description": "The value sensed or actuated by this Resource"
        },
"n" :
        {
            "description": "Friendly name of the resource",
            "maxLength": 64,
            "readOnly": true,
            "type": "string"
        },
"range" :
        {
            "description": "The valid range for the value Property",
            "items": [
                "anyOf": [
                    {
                        "type": "number"
                    },
                    {
                        "type": "integer"
                    }
                ],
                "maxItems": 2,
                "minItems": 2,
                "readOnly": true,
                "type": "array"
            }
        },
"step" :
        {
            "anyOf": [
                {
                    "type": "integer"
                },
                {
                    "type": "number"
                }
            ],
            "description": "Step value across the defined range",
            "readOnly": true
"humidity": {
  "description": "Current sensed value for Humidity",
  "maximum": 100,
  "minimum": 0,
  "readOnly": true,
  "type": "integer"
},

"id": {
  "description": "Instance ID of this specific resource",
  "maxLength": 64,
  "readOnly": true,
  "type": "string"
},

"if": {
  "description": "The interface set supported by this resource",
  "items": {
    "enum": [
      "oic.if.baseline",
      "oic.if.ll",
      "oic.if.b",
      "oic.if.lb",
      "oic.if.rw",
      "oic.if.r",
      "oic.if.a",
      "oic.if.s"
    ],
    "type": "string"
  },
  "minItems": 1,
  "readOnly": true,
  "type": "array"
}

"HumidityUpdate": {
  "properties": {
    "rt": {
      "description": "Resource Type",
      "items": {
        "maxLength": 64,
        "type": "string"
      },
      "minItems": 1,
      "readOnly": true,
      "type": "array"
    },
    "desiredHumidity": {
      "description": "Desired value for Humidity",
      "maximum": 100,
      "minimum": 0,
      "type": "integer"
    },
    "precision": {
      "description": "Accuracy granularity of the exposed value",
      "readOnly": true,
      ...
"type": "number",
},
"value": {
  "anyOf": [  
    { "type": "array" },
    { "type": "string" },
    { "type": "boolean" },
    { "type": "integer" },
    { "type": "number" },
    { "type": "object" }
  ],
  "description": "The value sensed or actuated by this Resource"
},
"n": {
  "description": "Friendly name of the resource",
  "maxLength": 64,
  "readOnly": true,
  "type": "string"
},
"range": {
  "description": "The valid range for the value Property",
  "items": {
    "anyOf": [  
      { "type": "number" },
      { "type": "integer" }
    ],
    "maxItems": 2,
    "minItems": 2,
    "readOnly": true,
    "type": "array"
  },
  "step": {
    "anyOf": [  
      { "type": "integer" },
      { "type": "number" }
    ],
    "description": "Step value across the defined range",
    "readOnly": true
  },
  "id":
}
"description": "Instance ID of this specific resource",
"maxLength": 64,
"readOnly": true,
"type": "string"
},

"if" :

"description": "The interface set supported by this resource",
"items": {
  "enum": [
    "oic.if.baseline",
    "oic.if.ll",
    "oic.if.h",
    "oic.if.lb",
    "oic.if.rw",
    "oic.if.r",
    "oic.if.a",
    "oic.if.s"
  ],
  "type": "string"
},

, "type": "string"
},

, "minItems": 1,

"readOnly": true,

"type": "array"
}

}

,"type": "object"
}

,B.73.5 Property Definition

Table 383 The properties definitions of the resource

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>value</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>Read Write</td>
<td>The value sensed or actuated by this Resource</td>
</tr>
<tr>
<td>range</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>The valid range for the value Property</td>
</tr>
<tr>
<td>rt</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>Resource Type</td>
</tr>
<tr>
<td>desiredHumidity</td>
<td>integer</td>
<td>No</td>
<td>Read Write</td>
<td>Desired value for Humidity</td>
</tr>
<tr>
<td>id</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Instance ID of this specific resource</td>
</tr>
<tr>
<td>if</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>The interface set supported by this resource</td>
</tr>
<tr>
<td>precision</td>
<td>number</td>
<td>No</td>
<td>Read Only</td>
<td></td>
</tr>
</tbody>
</table>
### Table 384 The CRUDN operations of the resource

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/HumidityResURI</td>
<td>get</td>
<td>post</td>
<td></td>
<td></td>
<td>observe</td>
</tr>
</tbody>
</table>
B.74 Ice Maker

B.74.1 Introduction

This resource describes the operational state of an Ice Maker.

The status is a string containing a value from the set of possible ice maker statuses.

The possible statuses are defined by the enumeration [on, off, full]

A status of 'on' means that the Ice Maker is operating.

A status of 'off' means that the Ice Maker is not operating.

A status of 'full' means that the ice collection bin is full (Ice Maker is operating).

B.74.2 Example URI

/IceMakerResURI

B.74.3 Resource Type

The resource type (rt) is defined as: ['oic.r.icemaker'].

B.74.4 Swagger2.0 Definition

{
  "swagger": "2.0",
  "info": {
    "title": "Ice Maker",
    "version": "v1.1.0-20160519",
    "license": {
      "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved."
    }
  },
  "schemes": ["http"],
  "consumes": ["application/json"],
  "produces": ["application/json"],
  "paths": {
    "/IceMakerResURI": {
      "get": {
        "description": "This resource describes an the operational state of an Ice Maker.
        The status is a string containing a value from the set of possible ice maker statuses. 
        The possible statuses are defined by the enumeration [on, off, full].
        A status of 'on' means that the Ice Maker is operating.
        A status of 'off' means that the Ice Maker is not operating.
        A status of 'full' means that the ice collection bin is full (Ice Maker is operating).
        Retrieves the current Ice Maker status.
        "
        "parameters": [
          {"$ref": "/parameters/interface"}
        ],
        "responses": {
          "200": {
            "description": ":",
            "x-example": {
              "rt": ["oic.r.icemaker"],
              "id": "unique_example_id",
              "status": "on"
            }
          }
        }
      }
    }
  }
}
"post": { "description": "Sets the desired Ice Maker status. Only valid settings for status in a Post shall be [on, off].", "parameters": [ { "$ref": "#/parameters/interface" }, { "name": "body", "in": "body", "required": true, "schema": { "$ref": "#/definitions/IceMakerUpdate" }, "x-example": { "id": "unique_example_id", "status": "off" } } ], "responses": { "200": { "description": "Indicates that the Ice Maker status was changed. The new status is provided in the response.", "x-example": { "id": "unique_example_id", "status": "off" } }, { "403": { "description": "This response is generated by the OIC Server when the client sends: An update with an invalid property value for status. The server responds with the current resource representation.", "x-example": { "id": "unique_example_id", "status": "off" } } } }, "interface": { "in": "query", "name": "if", "type": "string", "enum": ["oic.if.a", "oic.if.baseline"] } }, "definitions": { "IceMaker": { "properties": { "rt": { "description": "Resource Type", "items": [ { "maxLength": 64, "type": "string" } ], "minItems": 1, "readOnly": true, "type": "array" } } } }


"status": {
  "description": "Status of the Ice Maker",
  "enum": [
    "on",
    "off",
    "full"
  ],
  "type": "string"
},

"precision": {
  "description": "Accuracy granularity of the exposed value",
  "readOnly": true,
  "type": "number"
},

"value": {
  "anyOf": [
    { "type": "array" },
    { "type": "string" },
    { "type": "boolean" },
    { "type": "integer" },
    { "type": "number" },
    { "type": "object" }
  ],
  "description": "The value sensed or actuated by this Resource"
},

"n": {
  "description": "Friendly name of the resource",
  "maxLength": 64,
  "readOnly": true,
  "type": "string"
},

"range": {
  "description": "The valid range for the value Property",
  "items": { "anyOf": [
    { "type": "number" },
    { "type": "integer" }
  ],
    "maxItems": 2,
    "minItems": 2,
    "readOnly": true,
    "type": "array"
  }
}
"step":
{
  "anyOf": [
    {
      "type": "integer"
    },
    {
      "type": "number"
    }
  ],
  "description": "Step value across the defined range",
  "readOnly": true
},
"id":
{
  "description": "Instance ID of this specific resource",
  "maxLength": 64,
  "readOnly": true,
  "type": "string"
},
"if":
{
  "description": "The interface set supported by this resource",
  "items": [
    "enum": [
      "oic.if.baseline",
      "oic.if.ii",
      "oic.if.bi",
      "oic.if.b",
      "oic.if.ib",
      "oic.if.rb",
      "oic.if.r",
      "oic.if.a",
      "oic.if.s"
    ],
    "type": "string"
  ],
  "minItems": 1,
  "readOnly": true,
  "type": "array"
}

"IceMakerUpdate": {
  "properties": {
    "rt": {
      "description": "Resource Type",
      "items": [
        "enum": [
          "64",
          "string"
        ],
        "minItems": 1,
        "readOnly": true,
        "type": "array"
      }
    },
    "status": {
      "description": "Set the status of the Ice Maker",
      "enum": [
        "on",
        "off"
      ]
    }
  }
}
"precision":
{
  "description": "Accuracy granularity of the exposed value",
  "readOnly": true,
  "type": "number"
},

"value":
{
  "anyOf": [
    {
      "type": "array"
    },
    {
      "type": "string"
    },
    {
      "type": "boolean"
    },
    {
      "type": "integer"
    },
    {
      "type": "number"
    },
    {
      "type": "object"
    }
  ],
  "description": "The value sensed or actuated by this Resource"
},

"n":
{
  "description": "Friendly name of the resource",
  "maxLength": 64,
  "readOnly": true,
  "type": "string"
},

"range":
{
  "description": "The valid range for the value Property",
  "items": [
    "anyOf": [
      {
        "type": "number"
      },
      {
        "type": "integer"
      }
    ],
    "maxItems": 2,
    "minItems": 2,
    "readOnly": true,
    "type": "array"
  ],
  "description": "Step value across the defined range",
}
"readOnly": true,

"id": {
  "description": "Instance ID of this specific resource",
  "maxLength": 64,
  "readOnly": true,
  "type": "string"
},

"if": {
  "description": "The interface set supported by this resource",
  "items": {
    "enum": [
      "oic.if.baseline",
      "oic.if.ll",
      "oic.if.b",
      "oic.if.lb",
      "oic.if.rw",
      "oic.if.r",
      "oic.if.s",
    ],
    "type": "string"
  },
  "minItems": 1,
  "readOnly": true,
  "type": "array"
}

"if": {
  "description": "The interface set supported by this resource",
  "items": {
    "enum": [
      "oic.if.baseline",
      "oic.if.ll",
      "oic.if.b",
      "oic.if.lb",
      "oic.if.rw",
      "oic.if.r",
      "oic.if.s",
    ],
    "type": "string"
  },
  "minItems": 1,
  "readOnly": true,
  "type": "array"
}

"if": {
  "description": "The interface set supported by this resource",
  "items": {
    "enum": [
      "oic.if.baseline",
      "oic.if.ll",
      "oic.if.b",
      "oic.if.lb",
      "oic.if.rw",
      "oic.if.r",
      "oic.if.s",
    ],
    "type": "string"
  },
  "minItems": 1,
  "readOnly": true,
  "type": "array"
}

B.74.5 Property Definition

Table 385 The properties definitions of the resource

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>rt</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>Resource Type</td>
</tr>
<tr>
<td>value</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>Read Write</td>
<td>The value sensed or actuated by this Resource</td>
</tr>
<tr>
<td>id</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Instance ID of this specific resource</td>
</tr>
<tr>
<td>step</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>Step value across the defined range</td>
</tr>
<tr>
<td>n</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Friendly name of the resource</td>
</tr>
<tr>
<td>status</td>
<td>multiple types: see schema</td>
<td>Yes</td>
<td>Read Write</td>
<td></td>
</tr>
</tbody>
</table>

Copyright Open Connectivity Foundation, Inc. © 2016-18. All rights Reserved
<table>
<thead>
<tr>
<th>Property</th>
<th>Type</th>
<th>Access</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>range</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
</tr>
<tr>
<td>precision</td>
<td>number</td>
<td>No</td>
<td>Read Only</td>
</tr>
<tr>
<td>if</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
</tr>
<tr>
<td>rt</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
</tr>
<tr>
<td>value</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>Read Write</td>
</tr>
<tr>
<td>id</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
</tr>
<tr>
<td>step</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>Read Only</td>
</tr>
<tr>
<td>n</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
</tr>
<tr>
<td>status</td>
<td>string</td>
<td>Yes</td>
<td>Read Write</td>
</tr>
<tr>
<td>range</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
</tr>
<tr>
<td>precision</td>
<td>number</td>
<td>No</td>
<td>Read Only</td>
</tr>
<tr>
<td>if</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
</tr>
</tbody>
</table>

**B.74.6 CRUDN behaviour**

Table 386 The CRUDN operations of the resource

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/IceMakerResURI</td>
<td>get</td>
<td>post</td>
<td></td>
<td></td>
<td>observe</td>
</tr>
</tbody>
</table>
B.75 Illuminance Sensor

B.75.1 Introduction

This resource describes an illuminance sensor. Illuminance is a float and represents the sensed luminous flux per unit area in lux.

B.75.2 Example URI

/IlluminanceSensorResURI

B.75.3 Resource Type

The resource type (rt) is defined as: ['oic.r.sensor.illuminance'].

B.75.4 Swagger2.0 Definition

```json
{
  "swagger": "2.0",
  "info": {
    "title": "Illuminance Sensor",
    "version": "v1.1.0-20160519",
    "license": {
      "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved."
    }
  },
  "schemes": ["http"],
  "consumes": ["application/json"],
  "produces": ["application/json"],
  "paths": {
    "/IlluminanceSensorResURI": {
      
      "get": {
      "description": "This resource describes an illuminance sensor.
Illuminance is a float and represents the sensed luminous flux per unit area in lux.",
      "parameters": [{"$ref": "#/parameters/interface"}],
      "responses": {
        "200": {
          "description": "",
          "x-example": {
            "rt": ["oic.r.sensor.illuminance"],
            "id": "unique_example_id",
            "illuminance": 450.0
          }
        }
      },
      "schema": { "$ref": "#/definitions/Illuminance" }
    }
  }
}
```

Copyright Open Connectivity Foundation, Inc. © 2016-18. All rights Reserved
"in" : "query",
"name" : "if",
"type" : "string",
"enum" : ["oic.if.s", "oic.if.baseline"]
}

"definitions": {
  "illumination": {
    "properties": {
      "rt": {
        "description": "Resource Type",
        "items": {
          "maxLength": 64,
          "type": "string"
        },
        "minItems": 1,
        "readOnly": true,
        "type": "array",
      }
    },
    "precision": {
      "description": "Accuracy granularity of the exposed value",
      "readOnly": true,
      "type": "number",
    }
  },
  "value": {
    "anyOf": [
      { "type": "array" },
      { "type": "string" },
      { "type": "boolean" },
      { "type": "integer" },
      { "type": "number" },
      { "type": "object" }
    ],
    "description": "The value sensed or actuated by this Resource",
  },
  "n": {
    "description": "Friendly name of the resource",
    "maxLength": 64,
    "readOnly": true,
    "type": "string",
  }
  "illumination": {
    "description": "Sensed luminous flux per unit area in lux.",
    "readOnly": true,
    "type": "number",
  }
  "range": {
    "description": "The valid range for the value Property",
  }
}
"items": {  
  "anyOf": [  
    { "type": "number"  
    },  
    { "type": "integer"  
    }  
  ],  
  "maxItems": 2,  
  "minItems": 2,  
  "readOnly": true,  
  "type": "array"  
},  
"step": {  
  "anyOf": [  
    { "type": "integer"  
    },  
    { "type": "number"  
    }  
  ],  
  "description": "Step value across the defined range",  
  "readOnly": true  
},  
"id": {  
  "description": "Instance ID of this specific resource",  
  "maxLength": 64,  
  "readOnly": true,  
  "type": "string"  
},  
"if": {  
  "description": "The interface set supported by this resource",  
  "items": [  
    { "enum": [  
      "oic.if.baseline",  
      "oic.if.l1",  
      "oic.if.b",  
      "oic.if.l2",  
      "oic.if.rw",  
      "oic.if.r",  
      "oic.if.a",  
      "oic.if.s"  
    ],  
    "type": "string"  
  },  
  "minItems": 1,  
  "readOnly": true,  
  "type": "array"  
}  
}  
}  
,"type": "object"  
,"required": ["illuminance"]  
}  
}  
}
### B.75.5 Property Definition

#### Table 387 The properties definitions of the resource

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>illuminance</td>
<td>number</td>
<td>Yes</td>
<td>Read Only</td>
<td>Sensed luminous flux per unit area in lux.</td>
</tr>
<tr>
<td>value</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>Read Write</td>
<td>The value sensed or actuated by this Resource</td>
</tr>
<tr>
<td>precision</td>
<td>number</td>
<td>No</td>
<td>Read Only</td>
<td>Accuracy granularity of the exposed value</td>
</tr>
<tr>
<td>n</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Friendly name of the resource</td>
</tr>
<tr>
<td>rt</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>Resource Type</td>
</tr>
<tr>
<td>range</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>The valid range for the value Property</td>
</tr>
<tr>
<td>if</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>The interface set supported by this resource</td>
</tr>
<tr>
<td>step</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>Step value across the defined range</td>
</tr>
<tr>
<td>id</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Instance ID of this specific resource</td>
</tr>
</tbody>
</table>

### B.75.6 CRUDN behaviour

#### Table 388 The CRUDN operations of the resource

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/IlluminanceSensorResURI</td>
<td>get</td>
<td></td>
<td></td>
<td></td>
<td>observe</td>
</tr>
</tbody>
</table>

### B.76 Liquid Level

#### B.76.1 Introduction

This resource describes the attributes associated with liquid level. The current level and desired level are defined in terms of a percentage. The behaviour of when the current level and desired level are not equal is determined by the device manufacturer.

#### B.76.2 Example URI

/LiquidLevelResURI
### B.76.3 Resource Type

The resource type (rt) is defined as: `[oic.r.liquid.level]`.

### B.76.4 Swagger2.0 Definition

```json
{
    "swagger": "2.0",
    "info": {
        "title": "Liquid Level",
        "version": "v1.1.0-20160519",
        "license": {
            "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
            "x-description": "Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:
1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.
THIS SOFTWARE IS PROVIDED BY THE Open Connectivity Foundation, INC. "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR WARRANTIES OF NON-INFRINGEMENT, ARE DISCLAIMED. IN NO EVENT SHALL THE Open Connectivity Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE."
        }
    },
    "schemes": ["http"],
    "consumes": ["application/json"],
    "produces": ["application/json"],
    "paths": {
        "/LiquidLevelResURI": {
            "get": {
                "description": "This resource describes the attributes associated with liquid level. The current level and desired level are defined in terms of a percentage. The behaviour of when the current level and desired level are not equal is determined by the device manufacturer. Retrieves the state of liquid level.

parameters: [
    {"$ref": "/parameters/interface"}
],
"responses": {
    "200": {
        "description": ",
        "x-example": {
            "rt": ["oic.r.liquid.level"],
            "id": "unique_example_id",
            "currentlevel": 60,
            "desiredlevel": 80
        }
    },
    "schema": { "$ref": "#/definitions/LiquidLevel" }
}
    },
    "post": {
        "description": "Sets liquid level values",
        "parameters": [ 
            {"$ref": "/parameters/interface"},
            {
                "name": "body",
                "in": "body",
                "required": true,
                "schema": { "$ref": "#/definitions/LiquidLevelUpdate" },
                "x-example": {
                    "id": "unique_example_id",
                    "desiredlevel": 80
                }
            }
        ]
    }
}
```
"responses": {
  "200": {
    "description": "",
    "x-example": {
      "id": "unique_example_id",
      "desiredlevel": 80
    }
  },
  "schema": { "$ref": "#/definitions/LiquidLevelUpdate" }
},
"parameters": {
  "interface": {
    "in": "query",
    "name": "if",
    "type": "string",
    "enum": ["oic.if.rw", "oic.if.r", "oic.if.baseline"]
  }
},
"definitions": {
  "LiquidLevel": {
    "properties": {
      "rt": {
        "description": "Resource Type",
        "items": {
          "maxLength": 64,
          "type": "string"
        },
        "minItems": 1,
        "readOnly": true,
        "type": "array"
      },
      "currentlevel": {
        "description": "The current level of the liquid in percentage.",
        "maximum": 100,
        "minimum": 0,
        "readOnly": true,
        "type": "integer"
      },
      "precision": {
        "description": "Accuracy granularity of the exposed value",
        "readOnly": true,
        "type": "number"
      },
      "value": {
        "anyOf": [
          { "type": "array" },
          { "type": "string" },
          { "type": "boolean" },
          { "type": "integer" }
        ]
      }
    }
  }
}


{ "type": "number" },

"type": "object"
},
"description": "The value sensed or actuated by this Resource",
},

"n" :
{
"description": "Friendly name of the resource",
"maxLength": 64,
"readOnly": true,
"type": "string"
},

"range" :
{
"description": "The valid range for the value Property",
"items": [{
"anyOf": [{
  "type": "number"
},
  { "type": "integer"
},
  { "type": "integer"
}
},
"maxItems": 2,
"minItems": 2,
"readOnly": true,
"type": "array"
},

"step" :
{
"anyOf": [{
  "type": "integer"
},
  { "type": "integer"
},
  { "type": "integer"
}
},
"description": "Step value across the defined range",
"readOnly": true,
"type": "array"
},

"desiredLevel" :
{
"description": "The desired level of the liquid in percentage.",
"maximum": 100,
"minimum": 0,
"type": "integer"
},

?id" :
{
"description": "Instance ID of this specific resource",
"maxLength": 64,
"readOnly": true,
"type": "string"
},

"if" :
{
"description": "The interface set supported by this resource",
"items": [
"enum": [
  "oic.if.baseline",
  "oic.if.ll",
  "oic.if.b",
  "oic.if.lb",
  "oic.if.rw",
  "oic.if.z",
  "oic.if.z",
  "oic.if.e"
],
  "type": "string"
},
  "minItems": 1,
  "readOnly": true,
  "type": "array"
}
]
"type": "object"
]
", "required": ["currentlevel"]
})
,
"LiquidLevelUpdate": {
  "properties": {
    "rt": {
      "description": "Resource Type",
      "items": {
        "maxLength": 64,
        "type": "string"
      },
      "minItems": 1,
      "readOnly": true,
      "type": "array"
    },
    "precision": {
      "description": "Accuracy granularity of the exposed value",
      "readOnly": true,
      "type": "number"
    },
    "value": {
      "anyOf": [{
        "items": {},
        "type": "array"
      },
      {
        "type": "string"
      },
      {
        "type": "boolean"
      },
      {
        "type": "integer"
      },
      {
        "type": "number"
      },
      {
        "type": "object"
      }],
      "description": "The value sensed or actuated by this Resource"
    },
    "n": {
      "description": "Friendly name of the resource",
"maxLength": 64,
"readOnly": true,
"type": "string"
},
"range": {
  "description": "The valid range for the value Property",
  "items": {
    "anyOf": [
      {
        "type": "number"
      },
      {
        "type": "integer"
      }
    ],
    "maxItems": 2,
    "minItems": 2,
    "readOnly": true,
    "type": "array"
  },
  "step": {
    "anyOf": [
      {
        "type": "integer"
      },
      {
        "type": "number"
      }
    ],
    "description": "Step value across the defined range",
    "readOnly": true
  },
  "desiredLevel": {
    "description": "The desired level of the liquid in percentage.",
    "maximum": 100,
    "minimum": 0,
    "type": "integer"
  },
  "id": {
    "description": "Instance ID of this specific resource",
    "maxLength": 64,
    "readOnly": true,
    "type": "string"
  },
  "if": {
    "description": "The interface set supported by this resource",
    "items": {
      "enum": [
        "oic.if.baseline",
        "oic.if.ll",
        "oic.if.b",
        "oic.if.lb",
        "oic.if.rw",
        "oic.if.r",
        "oic.if.s",
        "oic.if.a"
      ],
      "type": "string"
    },
    "minItems": 1,
### B.76.5 Property Definition

#### Table 389 The properties definitions of the resource

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>rt</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>Resource Type</td>
</tr>
<tr>
<td>value</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>Read Write</td>
<td>The value sensed or actuated by this Resource</td>
</tr>
<tr>
<td>precision</td>
<td>number</td>
<td>No</td>
<td>Read Only</td>
<td>Accuracy granularity of the exposed value</td>
</tr>
<tr>
<td>step</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>Step value across the defined range</td>
</tr>
<tr>
<td>desiredlevel</td>
<td>integer</td>
<td>No</td>
<td>Read Write</td>
<td>The desired level of the liquid in percentage</td>
</tr>
<tr>
<td>n</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Friendly name of the resource</td>
</tr>
<tr>
<td>currentlevel</td>
<td>integer</td>
<td>Yes</td>
<td>Read Only</td>
<td>The current level of the liquid in percentage</td>
</tr>
<tr>
<td>if</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>The interface set supported by this resource</td>
</tr>
<tr>
<td>id</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Instance ID of this specific resource</td>
</tr>
<tr>
<td>range</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>The valid range for the value Property</td>
</tr>
<tr>
<td>rt</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>Resource Type</td>
</tr>
<tr>
<td>value</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>Read Write</td>
<td></td>
</tr>
<tr>
<td>Property</td>
<td>Type</td>
<td>Read/Write</td>
<td>Notes</td>
<td></td>
</tr>
<tr>
<td>--------------</td>
<td>---------------</td>
<td>------------</td>
<td>------------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>step</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>The value sensed or actuated by this Resource</td>
</tr>
<tr>
<td>desiredlevel</td>
<td>integer</td>
<td>Yes</td>
<td>Read Write</td>
<td>Step value across the defined range</td>
</tr>
<tr>
<td>n</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>The desired level of the liquid in percentage.</td>
</tr>
<tr>
<td>precision</td>
<td>number</td>
<td>No</td>
<td>Read Only</td>
<td>Accuracy granularity of the exposed value</td>
</tr>
<tr>
<td>if</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>The interface set supported by this resource</td>
</tr>
<tr>
<td>id</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Instance ID of this specific resource</td>
</tr>
<tr>
<td>range</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>The valid range for the value Property</td>
</tr>
</tbody>
</table>

**B.76.6 CRUDN behaviour**

<table>
<thead>
<tr>
<th>Table 390 The CRUDN operations of the resource</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resource</td>
</tr>
<tr>
<td>/LiquidLevelResURI</td>
</tr>
</tbody>
</table>

**B.77 Lock Code**

**B.77.1 Introduction**

Resource describing a lock code. The lockCodeList is an array of possible codes that may be associated with a lock. These are all presented as strings.

**B.77.2 Example URI**

/LockCodeResURI

**B.77.3 Resource Type**

The resource type (rt) is defined as: ['oic.r.lock.code'].

**B.77.4 Swagger2.0 Definition**

```json
{
    "swagger": "2.0",
    "info": {
        "title": "Lock Code",
    }
```
"version": "v1.1.0-20160519",
"license": {
  "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved."
  "x-description": "Redistribution and use in source and binary forms, with or without
  modification, are permitted provided that the following conditions are met:
  1. Redistributions of source code must retain the above copyright notice, this list of conditions and
     the following disclaimer.
  2. Redistributions in binary form must reproduce the above
     copyright notice, this list of conditions and the following disclaimer in the documentation and/or
     other materials provided with the distribution.
  THIS SOFTWARE IS PROVIDED BY THE Open
  Connectivity Foundation, INC. \"AS IS\" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
  LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR
  WARRANTIES OF NON-INFRINGEMENT, ARE DISCLAIMED.
IN NO EVENT SHALL THE Open Connectivity
  Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL,
  EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS
  OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) EVEN IF ADVISED OF THE POSSIBILITY
  OF SUCH DAMAGE."
},
"schemes": ["http"],
"consumes": ["application/json"],
"produces": ["application/json"],
"paths": {
  "/LockCodeResURI" : {
    "get": {
      "description": "Resource describing a lock code. The lockCodeList is an array of possible
      codes that may be associated with a lock. These are all presented as strings. Retrieves the
      current lock code values.
      ",
      "parameters": [ {
        "$ref": "#/parameters/interface"
      } ],
      "responses": {
        "200": {
          "description" : "",
          "x-example": {
            "rt" : ["oic.r.lock.code"],
            "id" : "unique_example_id",
            "lockCodeList" : ["012345","112233"]
          }
        }
      }
    },
    "post": {
      "description": "Updates the current lock code values.
      ",
      "parameters": [ {
        "$ref": "#/parameters/interface"
      } ],
      "responses": {
        "200": {
          "description" : "",
          "x-example": {
            "id" : "unique_example_id",
            "lockCodeList" : ["543210","332211"]
          }
        }
      }
    }
  }
}
"schema": { "$ref": "#/definitions/LockCode" }

"parameters": {
  "interface": {
    "in": "query",
    "name": "if",
    "type": "string",
    "enum": ["oic.if.a", "oic.if.baseline"]
  }
},

"definitions": {
  "LockCode": {
    "properties": {
      "rt": {
        "description": "Resource Type",
        "items": {
          "maxLength": 64,
          "type": "string"
        },
        "minItems": 1,
        "readOnly": true,
        "type": "array"
      },
      "precision": {
        "description": "Accuracy granularity of the exposed value",
        "readOnly": true,
        "type": "number"
      },
      "value": {
        "anyOf": [
          { "type": "array" },
          { "type": "string" },
          { "type": "boolean" },
          { "type": "integer" },
          { "type": "number" },
          { "type": "object" }
        ],
        "description": "The value sensed or actuated by this Resource"
      },
      "n": {
        "description": "Friendly name of the resource",
        "maxLength": 64,
        "readOnly": true,
        "type": "string"
      },
      "range": {
        "description": "The minimum and maximum values of the resource",
        "type": "object"  
      }
    }
  }
}
"description": "The valid range for the value Property",
"items": {
  "anyOf": [  
    {  
      "type": "number"
    },
    {  
      "type": "integer"
    }  
  ],
  "maxItems": 2,
  "minItems": 2,
  "readOnly": true,
  "type": "array"
},

"step": {  
  "anyOf": [  
    {  
      "type": "integer"
    },
    {  
      "type": "number"
    }  
  ],
  "description": "Step value across the defined range",
  "readOnly": true
},

"lockCodeList": {  
  "items": {  
    "description": "Value for the lock code",
    "type": "string"
  },
  "type": "array"
},

"id": {  
  "description": "Instance ID of this specific resource",
  "maxLength": 64,
  "readOnly": true,
  "type": "string"
},

"if": {  
  "description": "The interface set supported by this resource",
  "items": {  
    "enum": [  
      "oic.if.baseline",
      "oic.if.ll",
      "oic.if.b",
      "oic.if.lb",
      "oic.if.rw",
      "oic.if.z",
      "oic.if.s",
      "oic.if.e"
    ],
    "type": "string"
  },
  "minItems": 1,
  "readOnly": true,
  "type": "array"
}
B.77.5 Property Definition

Table 391 The properties definitions of the resource

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>lockCodeList</td>
<td>array: see schema</td>
<td>Yes</td>
<td>Read Write</td>
<td>Step value across the defined range</td>
</tr>
<tr>
<td>step</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>Step value across the defined range</td>
</tr>
<tr>
<td>range</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>The valid range for the value Property</td>
</tr>
<tr>
<td>id</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Instance ID of this specific resource</td>
</tr>
<tr>
<td>value</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>Read Write</td>
<td>The value sensed or actuated by this Resource</td>
</tr>
<tr>
<td>rt</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>Resource Type</td>
</tr>
<tr>
<td>precision</td>
<td>number</td>
<td>No</td>
<td>Read Only</td>
<td>Accuracy granularity of the exposed value</td>
</tr>
<tr>
<td>n</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Friendly name of the resource</td>
</tr>
<tr>
<td>if</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>The interface set supported by this resource</td>
</tr>
</tbody>
</table>

B.77.6 CRUDN behaviour

Table 392 The CRUDN operations of the resource

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/LockCodeResURI</td>
<td>get</td>
<td>post</td>
<td></td>
<td></td>
<td>observe</td>
</tr>
</tbody>
</table>

B.78 Lock

B.78.1 Introduction

Resource describing a lock.

For the type of lockState, the value 'Locked' indicates that the door is Locked.

The value 'Unlocked' indicates that the door is Unlocked.
Example URI

/B.78.2
/LockStatusResURI

B.78.3
Resource Type

The resource type (rt) is defined as: ['oic.r.lock.status'].

B.78.4
Swagger2.0 Definition

```json
{
"swagger": "2.0",
"info": {
"title": "Lock",
"version": "v1.1.0-20160519",
"license": {
"name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
"x-description": "Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

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},
"schemes": ["http"],
"consumes": ["application/json"],
"produces": ["application/json"],
"paths": {
"/LockStatusResURI": {
"get": {
"description": "Resource describing a lock. For the type of lockState, the value 'Locked' indicates that the door is locked.
The value 'Unlocked' indicates that the door is unlocked.
Retrieves the state of the lock."
,
"parameters": [ {
"$ref": "#/parameters/interface"
},
"responses": {
"200": {
"description": "",
"x-example": {
"rt": ["oic.r.lock.status"],
"id": "unique_example_id",
"lockState": "Locked"
}
},
"schema": { "$ref": "#/definitions/Lock" }
]
},
"post": {
"description": "Sets the current lock state."
,
"parameters": [ {
"$ref": "#/parameters/interface"},
"name": "body",
"in": "body",
"required": true,
"schema": { "$ref": "#/definitions/Lock" },
"x-example": {
"id": "unique_example_id",
```
```
"lockState": "Unlocked"
}
]
"responses": {
"200": {
"description": "",
"x-example": {
"id": "unique_example_id",
"lockState": "Unlocked"
}
,
"schema": { "$ref": "/definitions/Lock" }
},
"403": {
"description": "This response is generated by the OIC Server when the client sends:\nAn update with an invalid property value for lockState.\nThe server responds with the current resource representation.\n",
"x-example": {
"lockState": "Unlocked"

},
"schema": { "$ref": "/definitions/Lock" }
},
"parameters": {
"interface": {
"in": "query",
"name": "if",
"type": "string",
"enum": ["oic.if.a", "oic.if.baseline"]
}
},
"definitions": {
"Lock": {
"properties": {
"rt": {
"description": "Resource Type",
"items": { 
"maxLength": 64,
"type": "string"
},
"minItems": 1,
"readOnly": true,
"type": "array"
},
"precision": {
"description": "Accuracy granularity of the exposed value",
"readOnly": true,
"type": "number"
},
"value": {
"anyOf": [
{ 
"type": "array"
},
{ 
"type": "string"
},
{ 
"type": "boolean"
}
]}}
"n" : 
   { 
      "description": "Friendly name of the resource",
      "maxLength": 64,
      "readOnly": true,
      "type": "string"
   },

"lockState" :
   { 
      "description": "State of the lock.",
      "enum": [ 
         "Locked",
         "Unlocked"
      ],
      "type": "string"
   },

"range" :
   { 
      "description": "The valid range for the value Property",
      "items": [ 
         "anyOf": [ 
            { 
               "type": "number"
            },
            { 
               "type": "integer"
            }
         ]
      },
      "maxItems": 2,
      "minItems": 2,
      "readOnly": true,
      "type": "array"
   },

"step" :
   { 
      "anyOf": [ 
         { 
            "type": "integer"
         },
         { 
            "type": "number"
         }
      ],
      "description": "Step value across the defined range",
      "readOnly": true
   },

"id" :
   { 
      "description": "Instance ID of this specific resource",
      "maxLength": 64,
      "readOnly": true,
      "type": "string"
"if": {
  "description": "The interface set supported by this resource",
  "items": {
    "enum": [
      "oic.if.baseline",
      "oic.if.ll",
      "oic.if.b",
      "oic.if.lb",
      "oic.if.rw",
      "oic.if.r",
      "oic.if.a",
      "oic.if.s"
    ],
    "type": "string"
  },
  "minItems": 1,
  "readOnly": true,
  "type": "array"
}

"if": {
  "description": "The interface set supported by this resource",
  "items": {
    "enum": [
      "oic.if.baseline",
      "oic.if.ll",
      "oic.if.b",
      "oic.if.lb",
      "oic.if.rw",
      "oic.if.r",
      "oic.if.a",
      "oic.if.s"
    ],
    "type": "string"
  },
  "minItems": 1,
  "readOnly": true,
  "type": "array"
}

"type": "object"

"required": ["lockState"]

...}

B.78.5  Property Definition

Table 393 The properties definitions of the resource

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>range</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>The valid range for the value Property</td>
</tr>
<tr>
<td>value</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>Read Write</td>
<td>The value sensed or actuated by this Resource</td>
</tr>
<tr>
<td>step</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>Step value across the defined range</td>
</tr>
<tr>
<td>rt</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>Resource Type</td>
</tr>
<tr>
<td>lockState</td>
<td>string</td>
<td>Yes</td>
<td>Read Write</td>
<td>State of the lock.</td>
</tr>
<tr>
<td>n</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Friendly name of the resource</td>
</tr>
<tr>
<td>if</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>The interface set supported by this resource</td>
</tr>
<tr>
<td>precision</td>
<td>number</td>
<td>No</td>
<td>Read Only</td>
<td></td>
</tr>
</tbody>
</table>
### B.78.6 CRUDN behaviour

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/LockStatusResURI</td>
<td>get</td>
<td>post</td>
<td></td>
<td></td>
<td>observe</td>
</tr>
</tbody>
</table>

#### Table 394 The CRUDN operations of the resource

### B.79 Magnetic Field Direction Sensor

#### B.79.1 Introduction

This resource describes the direction of the Earth's magnetic field at the observer's current point in space.

Typical use case includes measurement of compass readings on a personal device.

The value is an array containing Hx, Hy, Hz (in that order) each of which are floats.

Each of Hx, Hy and Hz are expressed in A/m (Amperes per metre)

#### B.79.2 Example URI

/MagneticFieldDirectionResURI

#### B.79.3 Resource Type

The resource type (rt) is defined as: ['oic.r.sensor.magneticfielddirection']

#### B.79.4 Swagger2.0 Definition

```json
{
    "swagger": "2.0",
    "info": {
        "title": "Magnetic Field Direction Sensor",
        "version": "v1.1.0-20160519",
        "license": {
            "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved."
        }
    },
    "schemes": ["http"],
    "consumes": ["application/json"],
    "produces": ["application/json"],
    "paths": {
        "/MagneticFieldDirectionResURI": {
            "get": {
                "description": "This resource describes the direction of the Earth's magnetic field at the observer's current point in space. Typical use case includes measurement of compass readings on a personal device. The value is an array containing Hx, Hy, Hz (in that order) each of which are floats. Each of Hx, Hy and Hz are expressed in A/m (Amperes per metre)"
            }
        }
    }
}
```
The value is an array containing $H_x$, $H_y$, $H_z$ (in that order) each of which are floats. Each of $H_x$, $H_y$ and $H_z$ are expressed in $\text{A/m}$ ($\text{Amperes per metre}$).

```json
"parameters": [
  {"$ref": "/#parameters/interface"}
],
"responses": {
  "200": {
    "description": "",
    "x-example": {
      "rt": ["oic.r.sensor.magneticfielddirection"],
      "id": "unique_example_id",
      "value": [100.0, 15.0, 90.0]
    }
  },
  "schema": { "$ref": "/#definitions/magneticFieldDirection" }  
}  
"parameters": {
  "interface": {
    "in": "query",
    "name": "if",
    "type": "string",
    "enum": ["oic.if.s", "oic.if.baseline"]
  }
},
"definitions": {
  "magneticFieldDirection": {
    "properties": {
      "rt": {
        "description": "Resource Type",
        "items": {
          "maxLength": 64,
          "type": "string"
        },
        "minItems": 1,
        "readOnly": true,
        "type": "array"
      },
      "precision": {
        "description": "Accuracy granularity of the exposed value",
        "readOnly": true,
        "type": "number"
      },
      "value": {
        "description": "Array containing $H_x$, $H_y$, $H_z$.",
        "items": {
          "type": "number"
        },
        "maxItems": 3,
        "minItems": 3,
        "readOnly": true,
        "type": "array"
      },
      "n": {
        "description": "Friendly name of the resource",
        "maxLength": 64,
        "readOnly": true,
        "type": "string"
      }
    }
  }
},
```

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"range": 
   { 
      "description": "The valid range for the value Property",
      "items": [ 
         { "anyOf": [ 
            { "type": "number"
            },
            { "type": "integer"
            }
         ]
      },
      "maxItems": 2,
      "minItems": 2,
      "readOnly": true,
      "type": "array"
   },
   "step": 
   { 
      "anyOf": [ 
         { "type": "integer"
         },
         { "type": "number"
         }
      ],
      "description": "Step value across the defined range",
      "readOnly": true
   },
   "id": 
   { 
      "description": "Instance ID of this specific resource",
      "maxLength": 64,
      "readOnly": true,
      "type": "string"
   },
   "if": 
   { 
      "description": "The interface set supported by this resource",
      "items": [ 
         { "enum": [ 
            "oic.if.baseline",
            "oic.if.ll",
            "oic.if.lb",
            "oic.if.rw",
            "oic.if.r",
            "oic.if.s",
            "oic.if.a"
         ],
         "type": "string"
      },
      "minItems": 1,
      "readOnly": true,
      "type": "array"
   }
};
### B.79.5 Property Definition

#### Table 395 The properties definitions of the resource

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>precision</td>
<td>number</td>
<td>No</td>
<td>Read Only</td>
<td>Accuracy granularity of the exposed value</td>
</tr>
<tr>
<td>n</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Friendly name of the resource</td>
</tr>
<tr>
<td>if</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>The interface set supported by this resource</td>
</tr>
<tr>
<td>value</td>
<td>array: see schema</td>
<td>Yes</td>
<td>Read Only</td>
<td>Array containing Hx, Hy, Hz.</td>
</tr>
<tr>
<td>id</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Instance ID of this specific resource</td>
</tr>
<tr>
<td>rt</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>Resource Type</td>
</tr>
<tr>
<td>step</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>Step value across the defined range</td>
</tr>
<tr>
<td>range</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>The valid range for the value Property</td>
</tr>
</tbody>
</table>

### B.79.6 CRUDN behaviour

#### Table 396 The CRUDN operations of the resource

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/MagneticFieldDirectionResURI</td>
<td></td>
<td>get</td>
<td></td>
<td></td>
<td>observe</td>
</tr>
</tbody>
</table>

### B.80 Media

#### B.80.1 Introduction

This resource specifies the media types that an OCF Server supports. The resource is an array of media elements. Each element contains:

- A URL at which the specified media type can be accessed.
- A string array containing the definition of the media using SDP.
- Each entry in the sdp array is an SDP line.
- Each line shall follow the SDP description syntax as defined in the SDP specification.


#### B.80.2 Example URI

/ MediaResURI
B.80.3 Resource Type

The resource type (rt) is defined as: ['oic.r.media'].

B.80.4 Swagger2.0 Definition

```json
{
    "swagger": "2.0",
    "info": {
        "title": "Media",
        "version": "v1.1.0-20160519",
        "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
        "x-description": "Redistribution and use in source and binary forms, with or without
        modification, are permitted provided that the following conditions are met:
        1. Redistributions of source code must retain the above copyright notice, this list of conditions and
        the following disclaimer.
        2. Redistributions in binary form must reproduce the above
        copyright notice, this list of conditions and the following disclaimer in the documentation and/or
        other materials provided with the distribution.
        THIS SOFTWARE IS PROVIDED BY THE Open
        Connectivity Foundation, INC. "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
        LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR
        WARRANTIES OF NON-INFRINGEMENT, ARE DISCLAIMED.
        IN NO EVENT SHALL THE Open Connectivity
        Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL,
        EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS
        OR SERVICES; LOSS OF DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
        HOWEVER CAUSED AND
        ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR
        OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY
        OF SUCH DAMAGE."
    },
    "schemes": ["http"],
    "consumes": ["application/json"],
    "produces": ["application/json"],
    "paths": {
        "/MediaResURI" : {
            "get": {
                "description": "This resource specifies the media types that an OCF Server supports.
                The resource is an array of media elements. Each element contains:
                A URL at which the specified
                media type can be accessed.
                A string array containing the definition of the media using SDP.
                Each entry in the sdp array is an SDP line.
                Each line shall follow the SDP description syntax
                as defined in the SDP specification.
                The SDP specification can be found at
                Retrieves the current media resource."
            },
            "parameters": [],
            "responses": {
                "200": {
                    "description": "",
                    "x-example": {
                        "rt": ['oic.r.media'],
                        "id": "unique_example_id",
                        "media": {
                            "url": "some example url",
                            "sdp": [
                                "m=video 1 RTP/AVP 96",
                                "a=rtpmap:96 H264/9000",
                                "a=fmtp:96 profile-level-id=42A028;packetization-mode=1"
                            ]
                        }
                    }
                }
            }
        }
    }
}
```
"a=rtpmap:98 jpeg/90000",
"a=fmtp:98 sampling=YCbCr-4:2:0;width=256;height=256"
]
]}
"schema": { "$ref": "#/definitions/Media" }
]
]
]}
]}
]}
]}
"parameters": {
"interface": {
"in": "query",
"name": "if",
"type": "string",
"enum": ["oic.if.s", "oic.if.baseline"]
}
],
"definitions": {
"Media": {
"properties": {
"rt": {
"description": "Resource Type",
"items": {
"maxLength": 64,
"type": "string"
},
"minItems": 1,
"readOnly": true,
"type": "array"
},
"media": {
"type": "object"
},
"precision": {
"description": "Accuracy granularity of the exposed value",
"readOnly": true,
"type": "number"
},
"value": {
"anyOf": [
{
"type": "array"}
],
]}
"copyright": "Open Connectivity Foundation, Inc. © 2016-18. All rights Reserved"


```json
{
  "type": "string",
},
  "type": "boolean",
},
  "type": "integer",
},
  { "type": "number",
},
  { "type": "object"
},
"description": "The value sensed or actuated by this Resource",
},

"n": {
  "description": "Friendly name of the resource",
  "maxLength": 64,
  "readOnly": true,
  "type": "string",
},

"range": {
  "description": "The valid range for the value Property",
  "items": {
    "anyOf": [{
      "type": "number",
    },
    { "type": "integer"
    }]
  },
  "maxItems": 2,
  "minItems": 2,
  "readOnly": true,
  "type": "array"
},

"step": {
  "anyOf": [{
    "type": "integer",
  },
  { "type": "number"
  }]
},
"description": "Step value across the defined range",
"readOnly": true,
"id": {
  "description": "Instance ID of this specific resource",
  "maxLength": 64,
  "readOnly": true,
  "type": "string"
},

"if": {
  "description": "The interface set supported by this resource",
```
B.80.5 Property Definition

Table 397 The properties definitions of the resource

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>range</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>The valid range for the value property</td>
</tr>
<tr>
<td>rt</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>Resource Type</td>
</tr>
<tr>
<td>n</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Friendly name of the resource</td>
</tr>
<tr>
<td>if</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>The interface set supported by this resource</td>
</tr>
<tr>
<td>value</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>Read Write</td>
<td>The value sensed or actuated by this Resource</td>
</tr>
<tr>
<td>precision</td>
<td>number</td>
<td>No</td>
<td>Read Only</td>
<td>Accuracy granularity of the exposed value</td>
</tr>
<tr>
<td>step</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>Step value across the defined range</td>
</tr>
<tr>
<td>media</td>
<td>array: see schema</td>
<td>Yes</td>
<td>Read Write</td>
<td></td>
</tr>
<tr>
<td>id</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td></td>
</tr>
</tbody>
</table>
B.80.6 CRUDN behaviour

Table 398 The CRUDN operations of the resource

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/MediaResURI</td>
<td>get</td>
<td></td>
<td></td>
<td></td>
<td>observe</td>
</tr>
</tbody>
</table>

B.81 Media Source

B.81.1 Introduction

This resource defines a media source that exists on a device.
The source can be an input source or output source, this resource is agnostic of that.
The sourceName specifies a pre-defined media input or output (e.g."HDMI", "DVI")
The sourceNumber is a numeric identifier to specify the instance (e.g. "PC", 1)
The sourceType is an enumeration defining whether the source is audio, video or both.
The status is a boolean that determines if the specific source instance is selected or not.
A status of true means that the source instance is selected.
A status of false means that the source instance is not selected.

B.81.2 Example URI

/mediaSourceResURI

B.81.3 Resource Type

The resource type (rt) is defined as: ['oic.r.mediasource'].

B.81.4 Swagger2.0 Definition

```json
{
"swagger": "2.0",
"info": {
"title": "Media Source",
"version": "v1.1.0-20160519",
"license": {
"name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
"x-description": "Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions are met:
1. Redistributions of source code must retain the above copyright notice, this list of conditions and
the following disclaimer.
2. Redistributions in binary form must reproduce the above
copyright notice, this list of conditions and the following disclaimer in the documentation and/or
other materials provided with the distribution.

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LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR
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EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS
OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
HOWEVER CAUSED AND
ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR
OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY
OF SUCH DAMAGE."
},
"schemes": ["http"],
"consumes": ["application/json"],
"produces": ["application/json"],
"paths": {
"/mediaSourceResURI": {
"get": {
"description": "This resource defines a media source that exists on a device. The source
can be an input source or output source, this resource is agnostic of that. The sourceName
specifies a pre-defined media input or output (e.g."HDMI", "DVI") The sourceNumber is a
..."}
```

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numeric identifier to specify the instance (e.g. \"PC\", 1)
The sourceType is an enumeration defining whether the source is audio, video or both.
The status is a boolean that determines if the specific source instance is selected or not.

A status of true means that the source instance is selected.
A status of false means that the source instance is not selected.

```
"parameters": [  
   {"$ref": "#/parameters/interface"}  
],
"responses": {  
   "200": {  
      "description": "",
      "x-example": {  
        "rt": ["oic.r.mediasource"],
        "id": "unique_example_id",
        "sourceName": "HDMI-CEC",
        "sourceNumber": "1",
        "sourceType": "audioPlusVideo",
        "status": true  
      }  
    },  
   "schema": { "$ref": "#/definitions/mediaSource" }  
  },  
"post": {  
"description": "Changes the status of the source.
Allows changes of the sourceName and the status.

"parameters": [  
   {"$ref": "#/parameters/interface"},  
   {  
      "name": "body",
      "in": "body",
      "required": true,
      "schema": { "$ref": "#/definitions/mediaSource" },
      "x-example": {  
        "id": "unique_example_id",
        "sourceName": "my new name",
        "sourceNumber": "1",
        "status": true  
      }  
   }  
],  
"responses": {  
   "200": {  
      "description": "",
      "x-example": {  
        "id": "unique_example_id",
        "sourceName": "my new name",
        "sourceNumber": "1",
        "status": true  
      }  
    },  
   "schema": { "$ref": "#/definitions/mediaSource" }  
  }
```

"parameters": {  
   "interface" : {  
      "in" : "query",
      "name" : "if",
      "type" : "string",
      "enum" : ["oic.if.a", "oic.if.baseline"]  
   }  
},  
"definitions": {  
   "mediaSource" : {  
      "properties" : {

"rt" : {
  "description": "Resource Type",
  "items": { 
    "maxLength": 64,
    "type": "string"
  },
  "minItems": 1,
  "readOnly": true,
  "type": "array"
},

"status" : {
  "description": "Specifies if the specific source instance is selected or not",
  "type": "boolean"
},

"sourceType" : {
  "description": "Specifies the type of the source",
  "enum": [ 
    "audioOnly",
    "videoOnly",
    "audioPlusVideo"
  ],
  "readOnly": true,
  "type": "string"
},

"sourceName" : {
  "description": "Specifies a pre-defined media input or output",
  "type": "string"
},

"precision" : {
  "description": "Accuracy granularity of the exposed value",
  "readOnly": true,
  "type": "number"
},

"value" : {
  "anyOf": [ 
    { "type": "array" },
    { "type": "string" },
    { "type": "boolean" },
    { "type": "integer" },
    { "type": "number" },
    { "type": "object" }
  ],
  "description": "The value sensed or actuated by this Resource"
},

"n" : {
  "description": "Friendly name of the resource",

"maxLength": 64,
"readOnly": true,
"type": "string"
},
"range": {
"description": "The valid range for the value Property",
"items": {
"anyOf": [
{
"type": "number"
},
{
"type": "integer"
}
]
},
"maxItems": 2,
"minItems": 2,
"readOnly": true,
"type": "array"
},
"step": {
"anyOf": [
{
"type": "integer"
},
{
"type": "number"
}
],
"description": "Step value across the defined range",
"readOnly": true
},
"sourceNumber": {
"description": "Numeric identifier to specify the instance",
"readOnly": true,
"type": [
"integer",
"string"
]
},
"id": {
"description": "Instance ID of this specific resource",
"maxLength": 64,
"readOnly": true,
"type": "string"
},
"if": {
"description": "The interface set supported by this resource",
"items": {
"enum": [
"oic.if.baseline",
"oic.if.ll",
"oic.if.b",
"oic.if.lb",
"oic.if.rw",
"oic.if.r",
"oic.if.a",
"oic.if.s"
],
"type": "string"
### Property Definition

**Table 399 The properties definitions of the resource**

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>rt</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>Resource Type</td>
</tr>
<tr>
<td>precision</td>
<td>number</td>
<td>No</td>
<td>Read Only</td>
<td>Accuracy granularity of the exposed value</td>
</tr>
<tr>
<td>id</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Instance ID of this specific resource</td>
</tr>
<tr>
<td>step</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>Step value across the defined range</td>
</tr>
<tr>
<td>status</td>
<td>boolean</td>
<td>Yes</td>
<td>Read Write</td>
<td>Specifies if the specific source instance is selected or not</td>
</tr>
<tr>
<td>sourceName</td>
<td>string</td>
<td>Yes</td>
<td>Read Write</td>
<td>Specifies a pre-defined media input or output</td>
</tr>
<tr>
<td>value</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>Read Write</td>
<td>The value sensed or actuated by this Resource</td>
</tr>
<tr>
<td>sourceType</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Specifies the type of the source</td>
</tr>
<tr>
<td>n</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Friendly name of the resource</td>
</tr>
<tr>
<td>sourceNumber</td>
<td>['integer', 'string']</td>
<td>No</td>
<td>Read Only</td>
<td></td>
</tr>
</tbody>
</table>

```json
{
  "minItems": 1,
  "readOnly": true,
  "type": "array"
}
```
B.81.6 CRUDN behaviour

Table 400 The CRUDN operations of the resource

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/mediaSourceResURI</td>
<td>get</td>
<td>post</td>
<td></td>
<td></td>
<td>observe</td>
</tr>
</tbody>
</table>

B.82 Media Source List

B.82.1 Introduction

This resource provides the list of media sources available on the device. The sources are an array of mediaSource(s) as separately defined. The basic resource type oic.r.mediaSourceList does not provide any indications whether the source is input or output. Hence, two specializations of this resource exist. When a device exposes input sources then an instance of this resource with a resource type of oic.r.media.input is exposed. When a device exposes output sources then an instance of this resource with a resource type of oic.r.media.output is exposed. A device that exposes both input and output media sources then exposes two instances of this resource, one with a resource type or oic.r.media.input and one with a resource type of oic.r.media.output.

B.82.2 Example URI

/mediaSourceListResURI

B.82.3 Resource Type

The resource type (rt) is defined as: ['oic.r.mediasourcelist'].

B.82.4 Swagger2.0 Definition

```json
{
  "swagger": "2.0",
  "info": {
    "title": "Media Source List",
    "version": "v1.1.0-20160519",
    "license": {
      "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
      "x-description": "Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:
        1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
        2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.
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    }
  }
}
```
"schemes": ["http"],
"consumes": ["application/json"],
"produces": ["application/json"],
"paths": {
  "/mediaSourceListResURI": {
    "get": {
      "description": "This resource provides the list of media sources available on the device. The sources are an array of mediaSource(s) as separately defined. The basic resource type oic.r.mediaSourceList does not provide any indications whether the source is input or output. Hence, two specializations of this resource exist. When a device exposes input sources then an instance of this resource with a resource type of oic.r.media.input is exposed. When a device exposes output sources then an instance of this resource with a resource type of oic.r.media.output is exposed. A device that exposes both input and output media sources then exposes two instances of this resource, one with a resource type of oic.r.media.input and one with a resource type of oic.r.media.output."
    },
    "parameters": [
      {"$ref": "#/parameters/interface"}
    ],
    "responses": {
      "200": {
        "description": ",
        "x-example": {
          "rt": ["oic.r.mediasourcelist"],
          "id": "unique_example_id",
          "sources": [
            {
              "sourceName": "HDMI-CEC",
              "sourceNumber": "1",
              "sourceType": "audioPlusVideo",
              "status": true
            },
            {
              "sourceName": "dualRCA",
              "sourceNumber": "1",
              "sourceType": "audioOnly",
              "status": false
            }
          ]
        }
      },
      "schema": { "$ref": "#/definitions/mediaSourceList" }
    }
  },
  "post": {
    "description": "Changes the status of the source(s). Allows changes of the sourceName and the status."
    },
    "parameters": [
      {"$ref": "#/parameters/interface"},
      {"name": "body",
        "in": "body",
        "required": true,
        "schema": { "$ref": "#/definitions/mediaSourceList" },
        "x-example": {
          "id": "unique_example_id",
          "sources": [
            {
              "sourceName": "my new name",
              "sourceNumber": "1",
              "status": true
            }
          ]
        }
      },
      "responses": {
    }
"200": {
  "description": "",
  "x-example": {
    "id": "unique_example_id",
    "sources": [
      {
        "sourceName": "my new name",
        "sourceNumber": "1",
        "status": true
      }
    ]
  }
},
"parameters": {
  "interface": {
    "in": "query",
    "name": "if",
    "type": "string",
    "enum": ["oic.if.a", "oic.if.baseline"]
  }
},
"definitions": {
  "mediaSourceList": {
    "properties": {
      "rt": {
        "description": "Resource Type",
        "items": {
          "maxLength": 64,
          "type": "string"
        },
        "minItems": 1,
        "readOnly": true,
        "type": "array"
      },
      "precision": {
        "description": "Accuracy granularity of the exposed value",
        "readOnly": true,
        "type": "number"
      },
      "value": {
        "anyOf": [
          {
            "type": "array"
          },
          {
            "type": "string"
          },
          {
            "type": "boolean"
          },
          {
            "type": "integer"
          },
          {
            "type": "number"
          },
          {
            "type": "object"
          }
        ]
      }
    }
  }
}
"description": "The value sensed or actuated by this Resource",

"n": {
  "description": "Friendly name of the resource",
  "maxLength": 64,
  "readOnly": true,
  "type": "string"
},

"sources": {
  "items": {
    "oneOf": [
      {
        "properties": {
          "sourceName": {
            "description": "Specifies a pre-defined media input or output",
            "type": "string"
          },
          "sourceNumber": {
            "description": "Numeric identifier to specify the instance",
            "readOnly": true,
            "type": [
              "integer",
              "string"
            ]
          },
          "sourceType": {
            "description": "Specifies the type of the source",
            "enum": [
              "audioOnly",
              "videoOnly",
              "audioPlusVideo"
            ],
            "readOnly": true,
            "type": "string"
          },
          "status": {
            "description": "Specifies if the specific source instance is selected or not",
            "type": "boolean"
          }
        }
      },
      {
        "properties": {
          "sourceName": {
            "description": "Specifies a pre-defined media input or output",
            "type": "string"
          },
          "sourceNumber": {
            "description": "Numeric identifier to specify the instance",
            "readOnly": true,
            "type": [
              "integer",
              "string"
            ]
          },
          "sourceType": {
            "description": "Specifies the type of the source",
            "enum": [
              "audioOnly",
              "videoOnly",
              "audioPlusVideo"
            ],
            "readOnly": true,
            "type": "string"
          },
          "status": {
            "description": "Specifies if the specific source instance is selected or not",
            "type": "boolean"
          }
        }
      }
    ],
    "type": "array"
  },
  "range": {
    "items": {
      "anyOf": [
        {
          "type": "number"
        },
        {
          "type": "integer"
        }
      ]
    },
    "maxItems": 2,
    "minItems": 2,
    "readOnly": true,
    "type": "array"
  }
}
B.82.5 Property Definition

Table 401 The properties definitions of the resource

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>value</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>Read Write</td>
<td>The value sensed or actuated by this Resource</td>
</tr>
<tr>
<td>rt</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>Resource Type</td>
</tr>
<tr>
<td>n</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Friendly name of the resource</td>
</tr>
<tr>
<td>sources</td>
<td>array: see schema</td>
<td>Yes</td>
<td>Read Write</td>
<td></td>
</tr>
<tr>
<td>Property</td>
<td>Type</td>
<td>Required</td>
<td>Access</td>
<td>Description</td>
</tr>
<tr>
<td>------------</td>
<td>----------</td>
<td>----------</td>
<td>--------</td>
<td>-----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>range</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>The valid range for the value Property</td>
</tr>
<tr>
<td>id</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Instance ID of this specific resource</td>
</tr>
<tr>
<td>precision</td>
<td>number</td>
<td>No</td>
<td>Read Only</td>
<td>Accuracy granularity of the exposed value</td>
</tr>
<tr>
<td>if</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>The interface set supported by this resource</td>
</tr>
<tr>
<td>step</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>Step value across the defined range</td>
</tr>
</tbody>
</table>

**B.82.6 CRUDN behaviour**

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/mediaSourceListResURI</td>
<td>get</td>
<td>post</td>
<td></td>
<td></td>
<td>observe</td>
</tr>
</tbody>
</table>

**B.83 Media Source Input**

**B.83.1 Introduction**

This resource provides the list of input media sources available on the device. The sources are an array of mediaSource(s) as separately defined.

**B.83.2 Example URI**

@mediaSourceInputResURI

**B.83.3 Resource Type**

The resource type (rt) is defined as: ['oic.r.media.input'].

**B.83.4 Swagger2.0 Definition**

```json
{
  "swagger": "2.0",
  "info": {
    "title": "Media Source Input",
    "version": "v1.1.0-20160519",
    "license": {
      "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved."
    }
}
```

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ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR
OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY
OF SUCH DAMAGE.

"schemes": ["http"],
"consumes": ["application/json"],
"produces": ["application/json"],
"paths": {
  "/mediaSourceInputResURI": {
"get": {
  "description": "This resource provides the list of input media sources available on the
device. The sources are an array of mediaSource(s) as separately defined.
"parameters": ["$ref": "/#/parameters/interface"],
  "responses": {
  "200": {
    "description": "",
    "x-example": {
      "rt": ["oic.r.media.input"],
      "id": "unique_example_id",
      "sources": [
        {
          "sourceName": "HDMI-CEC",
          "sourceNumber": "1",
          "sourceType": "audioPlusVideo",
          "status": true
        }
      ]
    }
  }
  },
  "post": {
  "description": "Changes the status of the source(s). Allows changes of the sourceName and
the status."
"parameters": {
  "$ref": "/#/parameters/interface"],
  "name": "body",
  "in": "body",
  "required": true,
  "schema": { "$ref": "/#definitions/mediaSourceList" },
  "x-example": {
    "id": "unique_example_id",
    "sources": [
      {
        "sourceName": "my new name",
        "sourceNumber": "1",
        "status": true
      }
    ]
  }
  }
  },
  "responses": {
  "200": {
    "description": "",
    "x-example":
  }
  }
}
"id": "unique_example_id",
"sources": [
  
  
  "sourceName": "my new name",
  "sourceNumber": "1",
  "status": true

  

"schema": { "$ref": "/definitions/mediaSourceList" }

"parameters": {
  
  "interface": {
    
    "in": "query",
    "name": "if",
    "type": "string",
    "enum": ["oic.if.a", "oic.if.baseline"]

  
  
  

},
"definitions": {
  "mediaSourceList": {
    "properties": {
      "rt": {
        
        "description": "Resource Type",
        "items": {
          
          "maxLength": 64,
          "type": "string"

        
        },
        "minItems": 1,
        "readOnly": true,
        "type": "array"

      
      
      "precision": {
        
        "description": "Accuracy granularity of the exposed value",
        "readOnly": true,
        "type": "number"

      
      
      },
      "value": {
        
        "anyOf": [
          
          "type": "array"

        
        ],
        "type": "string"

      
      
      },
        "type": "boolean"

      
      
      },
        "type": "integer"

      
      
      },
        "type": "number"

      
      
      },
        "type": "object"

      
      
      },
        "description": "The value sensed or actuated by this Resource"
      
      
      ]

}
"n" : 
  { 
    "description": "Friendly name of the resource",
    "maxLength": 64,
    "readOnly": true,
    "type": "string"
  },

"sources" :
  { 
    "items": 
      "properties": 
        { 
          "sourceName": 
            { 
              "description": "Specifies a pre-defined media input or output",
              "type": "string"
            },
          "sourceNumber": 
            { 
              "description": "Numeric identifier to specify the instance",
              "readOnly": true,
              "type": "integer",
              "string"
            }
        },
      "sourceType": 
        { 
          "description": "Specifies the type of the source",
          "enum": [
            "audioOnly",
            "videoOnly",
            "audioPlusVideo"
          ],
          "readOnly": true,
          "type": "string"
        }
    },
    "status": 
      { 
        "description": "Specifies if the specific source instance is selected or not",
        "type": "boolean"
      }
  },

"range" : 
  { 
    "description": "The valid range for the value Property",
    "items": 
      { 
        "anyOf": [ 
          { 
            "type": "number"
          },
          { 
            "type": "integer"
          }
        ],
        "maxItems": 2,
        "minItems": 2,
        "readOnly": true,
        "type": "array"
      }
  },

"step" :
  { 
    "anyOf": [ 
      { 
        "type": "integer"
      }
    ]
### B.83.5 Property Definition

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>id</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Instance ID of this specific resource</td>
</tr>
<tr>
<td>precision</td>
<td>number</td>
<td>No</td>
<td>Read Only</td>
<td>Accuracy granularity of the exposed value</td>
</tr>
<tr>
<td>sources</td>
<td>array: see schema</td>
<td>Yes</td>
<td>Read Write</td>
<td></td>
</tr>
<tr>
<td>n</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Friendly name of the resource</td>
</tr>
<tr>
<td>value</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>Read Write</td>
<td></td>
</tr>
</tbody>
</table>
The value sensed or actuated by this Resource

<table>
<thead>
<tr>
<th>step</th>
<th>multiple types: see schema</th>
<th>No</th>
<th>Read Only</th>
<th>Step value across the defined range</th>
</tr>
</thead>
<tbody>
<tr>
<td>range</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>The valid range for the value Property</td>
</tr>
<tr>
<td>rt</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>Resource Type</td>
</tr>
<tr>
<td>if</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>The interface set supported by this resource</td>
</tr>
</tbody>
</table>

Table 404 The CRUDN operations of the resource

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/mediaSourceInputResURI</td>
<td>get</td>
<td>post</td>
<td></td>
<td></td>
<td>observe</td>
</tr>
</tbody>
</table>

B.84 Media Source Output

B.84.1 Introduction

This resource provides the list of output media sources available on the device. The sources are an array of mediaSource(s) as separately defined.

B.84.2 Example URI

/mediaSourceOutputResURI

B.84.3 Resource Type

The resource type (rt) is defined as: ['oic.r.media.output'].

B.84.4 Swagger2.0 Definition

```json
{
    "swagger": "2.0",
    "info": {
        "title": "Media Source Output",
        "version": "v1.1.0-20160519",
        "license": {
            "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
            "x-description": "Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

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        }
    }
}
```
"schemes": ["http"],
"consumes": ["application/json"],
"produces": ["application/json"],
"paths": {
  "/mediaSourceOutputResURI": {
    "get": {
      "description": "This resource provides the list of output media sources available on the device. The sources are an array of mediaSource(s) as separately defined.",
      "parameters": [
        {"$ref": "/parameters/interface"}
      ],
      "responses": {
        "200": {
          "description": "", 
          "x-example": {
            "rt": ["oic.r.media.output"],
            "id": "unique_example_id",
            "sources": [
              {
                "sourceName": "HDMI-CEC",
                "sourceNumber": "1",
                "sourceType": "audioPlusVideo",
                "status": true
              },
              {
                "sourceName": "dualRCA",
                "sourceNumber": "1",
                "sourceType": "audioOnly",
                "status": false
              }
            ]
          }  
        } 
      },
      "post": {
        "description": "Changes the status of the source(s). Allows changes of the sourceName and the status.",
        "parameters": [
          {"$ref": "/parameters/interface"},
          {
            "name": "body",
            "in": "body",
            "required": true,
            "schema": { 
              "$ref": "/definitions/mediaSourceList" 
            },
            "x-example": {
              "id": "unique_example_id",
              "sources": [
                {
                  "sourceName": "my new name",
                  "sourceNumber": "1",
                  "status": true
                } 
              ]
            } 
          } 
        ],
        "responses": {
          "200": {
            "description": "",
            "x-example": {
              "id": "unique_example_id",
              "sources": [ 
            
          } 
        } 
      }
    } 
  } 
}
"sourceName": "my new name",
"sourceNumber": "1",
"status": true
}

"schema": { "$ref": "/#definitions/mediaSourceList" }
"maxLength": 64,
"readOnly": true,
"type": "string"
},
"sources": {
"items": {
"oneOf": {
"properties": {
"sourceName": {
"description": "Specifies a pre-defined media input or output",
"type": "string"
},
"sourceNumber": {
"description": "Numeric identifier to specify the instance",
"readOnly": true,
"type": ["integer", "string"]
},
"sourceType": {
"description": "Specifies the type of the source",
"enum": ["audioOnly", "videoOnly", "audioPlusVideo"],
"readOnly": true,
"type": "string"
},
"status": {
"description": "Specifies if the specific source instance is selected or not",
"type": "boolean"
}
}
},
"type": "array"
},
"range": {
"description": "The valid range for the value Property",
"items": {
"anyOf": {
"type": "number"},
"type": "integer"
}
},
"maxItems": 2,
"minItems": 2,
"readOnly": true,
"type": "array"},
"step": {
"anyOf": {
"type": "integer"},
"type": "number"
```
{
    "description": "Step value across the defined range",
    "readOnly": true
},
"id": {
    "description": "Instance ID of this specific resource",
    "maxLength": 64,
    "readOnly": true,
    "type": "string"
},
"if": {
    "description": "The interface set supported by this resource",
    "items": {
        "enum": [
            "oic.if.baseline",
            "oic.if.ll",
            "oic.if.b",
            "oic.if.lb",
            "oic.if.rw",
            "oic.if.r",
            "oic.if.a",
            "oic.if.s"
        ],
        "type": "string"
    },
    "minItems": 1,
    "readOnly": true,
    "type": "array"
}
```

### B.84.5 Property Definition

**Table 405 The properties definitions of the resource**

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>range</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>The valid range for the value Property</td>
</tr>
<tr>
<td>rt</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>Resource Type</td>
</tr>
<tr>
<td>precision</td>
<td>number</td>
<td>No</td>
<td>Read Only</td>
<td>Accuracy granularity of the exposed value</td>
</tr>
<tr>
<td>if</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>The interface set supported by this resource</td>
</tr>
<tr>
<td>id</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Instance ID of this specific resource</td>
</tr>
</tbody>
</table>

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B.84.6 CRUDN behaviour

Table 406 The CRUDN operations of the resource

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/mediaSourceOutputResURI</td>
<td>get</td>
<td>post</td>
<td></td>
<td></td>
<td>observe</td>
</tr>
</tbody>
</table>

B.85 Mode

B.85.1 Introduction

This resource describes the modes of operation that a device can provide. The mode can be read or set. The supportedModes is an array of possible modes the device supports. The modes are an array of the currently active mode(s). Retrieves the current mode.

B.85.2 Example URI

/ModeResURI

B.85.3 Resource Type

The resource type (rt) is defined as: ['oic.r.mode'].

B.85.4 Swagger2.0 Definition

```json
{
    "swagger": "2.0",
    "info": {
        "title": "Mode",
        "version": "v1.1.0-20160519",
        "license": {
            "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
            "x-description": "Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

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""
        }
    }
}
```
"schemes": ["http"],
"consumes": ["application/json"],
"produces": ["application/json"],
"paths": {
  "/ModeResURI": {
    "get": {
      "description": "This resource describes the modes of operation that a device can provide.
      The supportedModes is an array of possible modes the device supports.
The modes are an array of the currently active mode(s).
Retrieves the current mode.",
      "parameters": [
        {"$ref": "#/parameters/interface"}
      ],
      "responses": {
        "200": {
          "description": ",
          "x-example": {
            "rt": ["oic.r.mode"],
            "id": "unique_example_id",
            "supportedModes": ["active","armedAway","armedStay","armedInstant"],
            "modes": ["active"]
          }
        },
        "403": {
          "description": "This response is generated by the OIC Server when the client sends:
            An update with an value for mode that is not found in supportedModes.
The server responds with the current resource representation.",
          "x-example": {
            "id": "unique_example_id",
            "supportedModes": ["active","armedAway","armedStay","armedInstant"],
            "modes": ["active"]
          }
        }
      }
    },
    "post": {
      "description": "Sets the desired mode.
      parameters": [
        {"$ref": "#/parameters/interface"},
        {
          "name": "body",
          "in": "body",
          "required": true,
          "schema": { "$ref": "#/definitions/ModeUpdate" },
          "x-example": {
            "id": "unique_example_id",
            "modes": ["armedAway"]
          }
        }
      ],
      "responses": {
        "200": {
          "description": ",
          "x-example": {
            "id": "unique_example_id",
            "modes": ["armedAway"]
          }
        },
        "403": {
          "description": "This response is generated by the OIC Server when the client sends:
            An update with an value for mode that is not found in supportedModes.
The server responds with the current resource representation.",
          "x-example": {
            "id": "unique_example_id",
            "supportedModes": ["active","armedAway","armedStay","armedInstant"],
            "modes": ["active"]
          }
        }
      }
    }
  }
}
"parameters": {
  "interface": {
    "in": "query",
    "name": "if",
    "type": "string",
    "enum": ["oic.if.a", "oic.if.baseline"]
  }
},
"definitions": {
  "Mode": { 
    "properties": { 
      "rt": {
        "description": "Resource Type",
        "items": {
          "maxLength": 64,
          "type": "string"
        },
        "minItems": 1,
        "readOnly": true,
        "type": "array"
      },
      "modes": {
        "description": "Array of the currently active mode(s)",
        "items": {
          "type": "string"
        },
        "type": "array"
      },
      "precision": {
        "description": "Accuracy granularity of the exposed value",
        "readOnly": true,
        "type": "number"
      },
      "value": {
        "anyOf": [
          {
            "type": "array"
          },
          {
            "type": "string"
          },
          {
            "type": "boolean"
          },
          {
            "type": "integer"
          },
          {
            "type": "number"
          },
          {
            "type": "object"
          }
        ],
        "description": "The value sensed or actuated by this Resource"
      },
      "n": {
        "description": "Friendly name of the resource",
        "maxLength": 64,
        "readOnly": true,
        "type": "string"
      }
    }
  }
}
"supportedModes": {
  "description": "Array of possible modes the device supports.",
  "items": {
    "type": "string"
  },
  "readOnly": true,
  "type": "array"
},

"range": {
  "description": "The valid range for the value Property",
  "items": {
    "anyOf": [
      {
        "type": "number"
      },
      {
        "type": "integer"
      }
    ],
  },
  "maxItems": 2,
  "minItems": 2,
  "readOnly": true,
  "type": "array"
},

"step": {
  "anyOf": [
    {
      "type": "integer"
    },
    {
      "type": "number"
    }
  ],
  "description": "Step value across the defined range",
  "readOnly": true
},

"id": {
  "description": "Instance ID of this specific resource",
  "maxLength": 64,
  "readOnly": true,
  "type": "string"
},

"if": {
  "description": "The interface set supported by this resource",
  "items": {
    "enum": [
      "oic.if.baseline",
      "oic.if.ll",
      "oic.if.b",
      "oic.if.lb",
      "oic.if.rw",
      "oic.if.r",
      "oic.if.s",
      "oic.if.s"
    ],
    "type": "string"
  },
  "minItems": 1,
  "readOnly": true,
"type": "array"
}

"type": "object"
"required": ["supportedModes", "modes"]
}

"ModeUpdate": {
"properties": {
"rt": {
"description": "Resource Type",
"items": {"maxLength": 64,
"type": "string"}
},
"minItems": 1,
"readOnly": true,
"type": "array"
},

"modes": {
"description": "Desired mode",
"items": {"type": "string"}
},
"type": "array"
}

"precision": {
"description": "Accuracy granularity of the exposed value",
"readOnly": true,
"type": "number"
}

"value": {
"anyOf": {
"type": "array"
},
"type": "string"
},
"type": "boolean"
},
"type": "integer"
},
"type": "number"
},
"type": "object"
},
"description": "The value sensed or actuated by this Resource"
}

"n": {
"description": "Friendly name of the resource",
"maxLength": 64,
"readOnly": true,
"type": "string"
},
"range": {
    "description": "The valid range for the value Property",
    "items": [
        "{anyOf": [
            { "type": "number" },
            { "type": "integer" }
        ]
    },
    "maxItems": 2,
    "minItems": 2,
    "readOnly": true,
    "type": "array"
},
"step": {
    "anyOf": [
        { "type": "integer" },
        { "type": "number" }
    ],
    "description": "Step value across the defined range",
    "readOnly": true
},
"id": {
    "description": "Instance ID of this specific resource",
    "maxLength": 64,
    "readOnly": true,
    "type": "string"
},
"if": {
    "description": "The interface set supported by this resource",
    "items": [
        { "enum": [ "oic.if.baseline", "oic.if.ll", "oic.if.ll", "oic.if.b", "oic.if.lb", "oic.if.rw", "oic.if.r", "oic.if.s", "oic.if.s" ],
        "type": "string" },
    "minItems": 1,
    "readOnly": true,
    "type": "array"
}
## B.85.5 Property Definition

### Table 407 The properties definitions of the resource

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>value</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>Read Write</td>
<td>The value sensed or actuated by this Resource</td>
</tr>
<tr>
<td>modes</td>
<td>array: see schema</td>
<td>Yes</td>
<td>Read Write</td>
<td>Array of the currently active mode(s)</td>
</tr>
<tr>
<td>rt</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>Resource Type</td>
</tr>
<tr>
<td>supportedModes</td>
<td>array: see schema</td>
<td>Yes</td>
<td>Read Only</td>
<td>Array of possible modes the device supports.</td>
</tr>
<tr>
<td>n</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Friendly name of the resource</td>
</tr>
<tr>
<td>if</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>The interface set supported by this resource</td>
</tr>
<tr>
<td>step</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>Step value across the defined range</td>
</tr>
<tr>
<td>range</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>The valid range for the value Property</td>
</tr>
<tr>
<td>id</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Instance ID of this specific resource</td>
</tr>
<tr>
<td>precision</td>
<td>number</td>
<td>No</td>
<td>Read Only</td>
<td>Accuracy granularity of the exposed value</td>
</tr>
<tr>
<td>value</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>Read Write</td>
<td>The value sensed or actuated by this Resource</td>
</tr>
<tr>
<td>modes</td>
<td>array: see schema</td>
<td>Yes</td>
<td>Read Write</td>
<td>Desired mode</td>
</tr>
<tr>
<td>rt</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>Resource Type</td>
</tr>
<tr>
<td>n</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Friendly name of the resource</td>
</tr>
</tbody>
</table>
The interface set supported by this resource

Step value across the defined range

The valid range for the value Property

Instance ID of this specific resource

Accuracy granularity of the exposed value

<table>
<thead>
<tr>
<th>Property</th>
<th>type</th>
<th>Read Only</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>The interface set supported by this resource</td>
</tr>
<tr>
<td>multiple types: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>Step value across the defined range</td>
</tr>
<tr>
<td>range array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>The valid range for the value Property</td>
</tr>
<tr>
<td>id string</td>
<td>No</td>
<td>Read Only</td>
<td>Instance ID of this specific resource</td>
</tr>
<tr>
<td>precision number</td>
<td>No</td>
<td>Read Only</td>
<td>Accuracy granularity of the exposed value</td>
</tr>
</tbody>
</table>

Table 408 The CRUDN operations of the resource

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/ModeResURI</td>
<td>get</td>
<td>post</td>
<td></td>
<td></td>
<td>observe</td>
</tr>
</tbody>
</table>

B.86 Motion Sensor

B.86.1 Introduction

This resource describes whether motion has been sensed or not. The value is a boolean. A value of 'true' means that motion has been sensed. A value of 'false' means that motion not been sensed.

B.86.2 Example URI

/MotionResURI

B.86.3 Resource Type

The resource type (rt) is defined as: ['oic.r.sensor.motion'].

B.86.4 Swagger2.0 Definition

```json
{
  "swagger": "2.0",
  "info": {
    "title": "Motion Sensor",
    "version": "v1.1.0-20160519",
    "license": {
      "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
      "x-description": "Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

      1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
      2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.

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```

Copyright Open Connectivity Foundation, Inc. © 2016-18. All rights Reserved
"schemes": ["http"],
"consumes": ["application/json"],
"produces": ["application/json"],
"paths": {
  "/MotionResURI": {
    "get": {
      "description": "This resource describes whether motion has been sensed or not.
The value
is a boolean. A value of 'true' means that motion has been sensed. A value of 'false'

motion not been sensed.",
"parameters": [ {
  "$ref": "/parameters/interface"
},
  "responses": { "200": {
    "description": "",
    "x-example": {
      "rt": ["oic.r.sensor.motion"],
      "id": "unique_example_id",
      "value": true
    }
    
    
    "schema": { "$ref": "/definitions/Motion" }
    
  },
  }],
"parameters": {
  "interface": {
    "in": "query",
    "name": "if",
    "type": "string",
    "enum": ["oic.if.s", "oic.if.baseline"
    ]
  }
},
"definitions": {
  "Motion": {
    "properties": {
      "rt": {
        "description": "Resource Type",
        "items": {
          "maxLength": 64,
          "type": "string"
        },
        "minItems": 1,
        "readOnly": true,
        "type": "array"
      },
      "precision": {
        "description": "Accuracy granularity of the exposed value",
        "readOnly": true,
        "type": "number"
      },
      "value": {
        "description": "true - sensed, false - not sensed.",
        "readOnly": true,
        "type": "boolean"
      }
    }
  }
}
"n": 
  
  "description": "Friendly name of the resource",
  "maxLength": 64,
  "readOnly": true,
  "type": "string"
},

"range": 
  
  "description": "The valid range for the value Property",
  "items": [
    "anyOf": [
      
      "type": "number"
    ],
    
    "type": "integer"
  ]
},

"maxItems": 2,
"minItems": 2,
"readOnly": true,
"type": "array"
},

"step": 
  
  "anyOf": [
    
    "type": "integer"
  ],
    
    "type": "number"
  ]
},

"description": "Step value across the defined range",
"readOnly": true
},

"id": 
  
  "description": "Instance ID of this specific resource",
  "maxLength": 64,
  "readOnly": true,
  "type": "string"
},

"if": 
  
  "description": "The interface set supported by this resource",
  "items": [
    
    "enum": [
      "oic.if.baseline",
      "oic.if.ll",
      "oic.if.b",
      "oic.if.lb",
      "oic.if.rw",
      "oic.if.r",
      "oic.if.s",
      "oic.if.a"
    ],
    
    "type": "string"
  ]
},

"minItems": 1,
"readOnly": true,
"type": "array"}
B.86.5 Property Definition

Table 409 The properties definitions of the resource

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>rt</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>Resource Type</td>
</tr>
<tr>
<td>value</td>
<td>boolean</td>
<td>Yes</td>
<td>Read Only</td>
<td>true = sensed, false = not sensed.</td>
</tr>
<tr>
<td>step</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>Step value across the defined range</td>
</tr>
<tr>
<td>range</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>The valid range for the value Property</td>
</tr>
<tr>
<td>if</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>The interface set supported by this resource</td>
</tr>
<tr>
<td>n</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Friendly name of the resource</td>
</tr>
<tr>
<td>precision</td>
<td>number</td>
<td>No</td>
<td>Read Only</td>
<td>Accuracy granularity of the exposed value</td>
</tr>
<tr>
<td>id</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Instance ID of this specific resource</td>
</tr>
</tbody>
</table>

B.86.6 CRUDN behaviour

Table 410 The CRUDN operations of the resource

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/MotionResURI</td>
<td>get</td>
<td></td>
<td></td>
<td></td>
<td>observe</td>
</tr>
</tbody>
</table>

B.87 Movement

B.87.1 Introduction

This resource specifies linear movement.

The movementSettings is an array of strings containing possible movement values (e.g. spin, stop, left, right).

The movement is the currently selected movement value.

The movementModifier is a modifier to the movement value (e.g. "spin", "90")
B.87.2 Example URI

/MovementResURI

B.87.3 Resource Type

The resource type (rt) is defined as: ['oic.r.movement.linear'].

B.87.4 Swagger2.0 Definition

```json
{
  "swagger": "2.0",
  "info": {
    "title": "Movement",
    "version": "v1.1.0-20160519",
    "license": {
      "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
      "x-description": "Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:
        1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
        2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.

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        HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE."
    }
  },
  "schemes": ["http"],
  "consumes": ["application/json"],
  "produces": ["application/json"],
  "paths": {
    "/MovementResURI" : {
      "get": {
        "description": "This resource specifies linear movement.
The movementSettings is an array of strings containing possible movement values (e.g. spin, stop, left, right).
The movement is the currently selected movement value.
The movementModifier is a modifier to the movement value (e.g. \"spin\", \"90\")
      }
    },
    "/parameters/interface" : {
      "parameters": [ [{"$ref": "+parameters/interface"}]
    },
    "/responses": {
      "200": {
        "description": "",
        "x-example": {
          "rt": ["oic.r.movement.linear"],
          "id": "unique_example_id",
          "movementSettings": ["stop", "left", "right", "rotate", "forward", "backward"],
          "movement": "rotate",
          "movementModifier": "90"
        } }
    }
  }
}
```

"x-example":
  {
    "id": "unique_example_id",
    "movementSettings": ["stop", "left", "right", "rotate", "forward", "backward"],
    "movement": "stop"
  }
}

"responses": {
  "200": {
    "description": "",
    "x-example":
      {
        "id": "unique_example_id",
        "movementSettings": ["stop", "left", "right", "rotate", "forward", "backward"],
        "movement": "stop"
      }
      ,
    "schema": { "$ref": "/definitions/movement" }
  }
}

"parameters": {
  "interface": {
    "in": "query",
    "name": "if",
    "type": "string",
    "enum": ["oic.if.s", "oic.if.baseline"]
  }
}

"definitions": {
  "movement": {
    "properties": {
      "rt": {
        "description": "Resource Type",
        "items": {
          "maxLength": 64,
          "type": "string"
        },
        "minItems": 1,
        "readOnly": true,
        "type": "array"
      },
      "movementSettings": {
        "description": "array of possible movement values",
        "items": {
          "type": "string"
        },
        "readOnly": true,
        "type": "array"
      },
      "precision": {
        "description": "Accuracy granularity of the exposed value",
        "readOnly": true,
        "type": "number"
      },
      "value": {
        "anyOf": [
          {
            "type": "array"
          }
        ]
      }
    }
  }
}

"type": "string"
},
  "type": "boolean"
},
  "type": "integer"
},
  "type": "number"
},
  "type": "object"
}
],
"description": "The value sensed or actuated by this Resource"
},
"n":
{  "description": "Friendly name of the resource",
  "maxLength": 64,
  "readOnly": true,
  "type": "string"
},
"movementModifier":
{  "description": "Modifier to the movement value (e.g. spin-90, left-20), units are device dependent",
  "type": "string"
},
"range":
{  "description": "The valid range for the value Property",
  "items": [  "anyOf": [  "type": "number"
    },
    "type": "integer"
  ]
},
"maxItems": 2,
"minItems": 2,
  "readOnly": true,
  "type": "array"
},
"step":
{  "anyOf": [  "type": "integer"
    ],
    "type": "number"
  }
},
  "description": "Step value across the defined range",
  "readOnly": true}
},
"if":
{  "description": "The interface set supported by this resource",
  "items": [  "enum": [
B.87.5 Property Definition

Table 411 The properties definitions of the resource

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>if</code></td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>The interface set supported by this resource</td>
</tr>
<tr>
<td><code>movementSettings</code></td>
<td>array: see schema</td>
<td>Yes</td>
<td>Read Only</td>
<td>array of possible movement values</td>
</tr>
<tr>
<td><code>rt</code></td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>Resource Type</td>
</tr>
<tr>
<td><code>precision</code></td>
<td>number</td>
<td>No</td>
<td>Read Only</td>
<td>Accuracy granularity of the exposed value</td>
</tr>
<tr>
<td><code>movementModifier</code></td>
<td>string</td>
<td>No</td>
<td>Read Write</td>
<td>Modifier to the movement value (e.g. spin-90, left-20), units are device dependent</td>
</tr>
</tbody>
</table>
### B.87.6 CRUDN behaviour

<table>
<thead>
<tr>
<th>Property</th>
<th>Type</th>
<th>Access</th>
<th>Operation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>movement</td>
<td>string</td>
<td>Yes</td>
<td>Read Write</td>
<td>Current movement value</td>
</tr>
<tr>
<td>id</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Instance ID of this specific resource</td>
</tr>
<tr>
<td>n</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Friendly name of the resource</td>
</tr>
<tr>
<td>range</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>The valid range for the value Property</td>
</tr>
<tr>
<td>step</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>Step value across the defined range</td>
</tr>
<tr>
<td>value</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>Read Write</td>
<td>The value sensed or actuated by this Resource</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/MovementResURI</td>
<td>get</td>
<td>post</td>
<td></td>
<td></td>
<td>observe</td>
</tr>
</tbody>
</table>

### B.88 Night Mode

#### B.88.1 Introduction
This resource describes a night mode on/off feature.
A nightMode value of 'true' means that the feature is on.
A nightMode value of 'false' means that the feature is off.

#### B.88.2 Example URI

| /NightModeResURI |

#### B.88.3 Resource Type
The resource type (rt) is defined as: ['oic.r.nightmode'].

#### B.88.4 Swagger2.0 Definition

```json
{
    "swagger": "2.0",
    "info": {
        "title": "Night Mode",
        "version": "v1.1.0-20160519",
        "license": {
            "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
            "x-description": "Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.

THIS SOFTWARE IS PROVIDED BY THE Open Connectivity Foundation, INC. \"AS IS\" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT"
```
"schemes": ["http"],
"consumes": ["application/json"],
"produces": ["application/json"],
"paths": {
"/NightModeResURI": {
"get": {
"description": "This resource describes a night mode on/off feature. A nightMode value of 'true' means that the feature is on. A nightMode value of 'false' means that the feature is off."

"parameters": [
{"$ref": "#/parameters/interface"}
],
"responses": {
"200": {
"description": "",
"x-example":
{
  "rt": ["oic.r.nightmode"],
  "id": "unique_example_id",
  "nightMode": false
}
}
}
,"post": {
"description": "",
"parameters": [
{"$ref": "#/parameters/interface"},
{
  "name": "body",
  "in": "body",
  "required": true,
  "schema": { "$ref": "#/definitions/NightMode" },
  "x-example":
  {
    "id": "unique_example_id",
    "nightMode": true
  }
}
]
,"responses": {
"200": {
"description": "",
"x-example":
{
  "id": "unique_example_id",
  "nightMode": true
}
}
}
,"parameters": {
"interface": {
  "in": "query",
  "name": "if",
  "description": "",
  "x-example":
  {
    "id": "unique_example_id",
    "nightMode": true
  }
}
]
,"responses": {
"200": {
"description": "",
"x-example":
{
  "id": "unique_example_id",
  "nightMode": true
}
}
}
,"parameters": {
"interface": {
  "in": "query",
  "name": "if",
  "description": "",
  "x-example":
  {
    "id": "unique_example_id",
    "nightMode": true
  }
}
]
,"responses": {
"200": {
"description": "",
"x-example":
{
  "id": "unique_example_id",
  "nightMode": true
}
}
}
,"parameters": {
"interface": {
  "in": "query",
  "name": "if",
  "description": "",
  "x-example":
  {
    "id": "unique_example_id",
    "nightMode": true
  }
}
]
,"responses": {
"200": {
"description": "",
"x-example":
{
  "id": "unique_example_id",
  "nightMode": true
}
}
}
,"parameters": {
"interface": {
  "in": "query",
  "name": "if",
  "description": "",
  "x-example":
  {
    "id": "unique_example_id",
    "nightMode": true
  }
}
]
,"responses": {
"200": {
"description": "",
"x-example":
{
  "id": "unique_example_id",
  "nightMode": true
}
}
}
,"parameters": {
"interface": {
  "in": "query",
  "name": "if",
  "description": "",
  "x-example":
  {
    "id": "unique_example_id",
    "nightMode": true
  }
}
]
,"responses": {
"200": {
"description": "",
"x-example":
{
  "id": "unique_example_id",
  "nightMode": true
}
}
}
,"parameters": {
"interface": {
  "in": "query",
  "name": "if",
  "description": "",
  "x-example":
  {
    "id": "unique_example_id",
    "nightMode": true
  }
}
]


```json
"type": "string",
"enum": ["oic.if.a", "oic.if.baseline"]
}

"definitions": {
"NightMode": {
"properties": {
"rt": {
"description": "Resource Type",
"items": {
"maxLength": 64,
"type": "string"
},
"minItems": 1,
"readOnly": true,
"type": "array"
},
"precision": {
"description": "Accuracy granularity of the exposed value",
"readOnly": true,
"type": "number"
},
"value": {
"anyOf": [
{"type": "array"},
{"type": "string"},
{"type": "boolean"},
{"type": "integer"},
{"type": "number"},
{"type": "object"}
],
"description": "The value sensed or actuated by this Resource",
"n": {
"description": "Friendly name of the resource",
"maxLength": 64,
"readOnly": true,
"type": "string"
},
"range": {
"description": "The valid range for the value Property",
"items": {
"anyOf": [
{"type": "number"},
{"type": "integer"}
]
}
```

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B.88.5 Property Definition

Table 413 The properties definitions of the resource

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Property</td>
<td>Type</td>
<td>Access</td>
<td>Description</td>
<td></td>
</tr>
<tr>
<td>----------</td>
<td>------</td>
<td>--------</td>
<td>-------------</td>
<td></td>
</tr>
<tr>
<td>range</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>The valid range for the value Property</td>
</tr>
<tr>
<td>id</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Instance ID of this specific resource</td>
</tr>
<tr>
<td>if</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>The interface set supported by this resource</td>
</tr>
<tr>
<td>n</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Friendly name of the resource</td>
</tr>
<tr>
<td>rt</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>Resource Type</td>
</tr>
<tr>
<td>precision</td>
<td>number</td>
<td>No</td>
<td>Read Only</td>
<td>Accuracy granularity of the exposed value</td>
</tr>
<tr>
<td>value</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>Read Write</td>
<td>The value sensed or actuated by this Resource</td>
</tr>
<tr>
<td>nightMode</td>
<td>boolean</td>
<td>Yes</td>
<td>Read Write</td>
<td>Status of the Night Mode</td>
</tr>
<tr>
<td>step</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>Step value across the defined range</td>
</tr>
</tbody>
</table>

### B.88.6 CRUDN behaviour

#### Table 414 The CRUDN operations of the resource

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/NightModeResURI</td>
<td>get</td>
<td>post</td>
<td></td>
<td></td>
<td>observe</td>
</tr>
</tbody>
</table>

### B.89 Open Level

#### B.89.1 Introduction

This resource describes how open or ajar an entity such as a window, door, blind or shutter is. The openLevel can be read (acting as a sensor). The openLevel can also be set (acting as an actuator). The openLevel is device dependent across the range provided. When range (from oic.r.baseresource) is omitted then 0 to 100 is assumed where 0 means closed, 100 means fully open. If a range is provided then the lower bound=closed, upper bound=open. If step (from oic.r.baseresource) is present then it represents the increment between possible values; if not provided 1 is assumed.
B.89.2 Example URI

/OpenLevelResURI

B.89.3 Resource Type

The resource type (rt) is defined as: ['oic.r.openlevel'].

B.89.4 Swagger2.0 Definition

```json
{
  "swagger": "2.0",
  "info": {
    "title": "Open Level",
    "version": "v1.1.0-20160519",
    "license": {
      "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
      "x-description": "Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:\n
1. Redistributions of source code must retain the above copyright notice, list of conditions and the following disclaimer.\n2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.\n\nTHIS SOFTWARE IS PROVIDED BY THE Open Connectivity Foundation, INC. \"AS IS\" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR WARRANTIES OF NON-INFRINGEMENT, ARE DISCLAIMED. IN NO EVENT SHALL THE Open Connectivity Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE."
    }
  },
  "schemes": ["http"],
  "consumes": ["application/json"],
  "produces": ["application/json"],
  "paths": {
    "/OpenLevelResURI": {
      "get": {
        "description": "This resource describes how open or ajar an entity such as a window, door, blind or shutter is.\nThe openLevel can be read (acting as a sensor).\nThe openLevel can also be set (acting as an actuator).\nThe openLevel is device dependent across the range provided.\nWhen range (from oic.r.baseresource) is omitted then 0 to 100 is assumed where 0 means closed, 100 means fully open.\nIf a range is provided then the lower bound-closed, upper bound-open.\nIf step (from oic.r.baseresource) is present then it represents the increment between possible values; if not provided 1 is assumed.\nRetrieves the current openLevel."
      },
      "parameters": [
        { "$ref": "#/parameters/interface" }
      ],
      "responses": {
        "200": {
          "description": "",
          "x-example": {
            "rt": ["oic.r.openlevel"],
            "id": "unique_example_id",
            "openLevel": 50,
            "step": 2,
            "range": [0,100]
          }
        }
      }
    },
    "post": {
      "description": "Sets the desired openLevel."
    },
    "parameters": [
      { "$ref": "#/parameters/interface" }
    ],
    "name": "body",
    "schema": { "$ref": "#/definitions/OpenLevel" }
  }
}```
"in": "body",
"required": true,
"schema": { "$ref": "#/definitions/OpenLevel" },
"x-example":
{
    "id":     "unique_example_id",
    "openLevel": 0
}
}
"responses": {
"200": {
    "description": ",
    "x-example":
{
    "id":     "unique_example_id",
    "openLevel": 0
}
},
"403": {
    "description": "This response is generated by the OIC Server when the client
sends:
An update with an out of range property value for openLevel.
The server responds with
the current resource representation.
",
    "x-example":
{
    "id":     "unique_example_id",
    "openLevel": 50,
    "step":   2,
    "range":  [0,100]
}
},
"schema": { "$ref": "#/definitions/OpenLevel" }
},
"403": {
    "description": "This response is generated by the OIC Server when the client
sends:
An update with an out of range property value for openLevel.
The server responds with
the current resource representation.
",
    "x-example":
{
    "id":     "unique_example_id",
    "openLevel": 50,
    "step":   2,
    "range":  [0,100]
}
},
"schema": { "$ref": "#/definitions/OpenLevel" }
}
"parameters": {
"interface": {
    "in": "query",
    "name" : "if",
    "type" : "string",
    "enum" : ["oic.if.a", "oic.if.baseline"]
}
},
"definitions": {
"OpenLevel": {
"properties": {
"rt": {
"description": "Resource Type",
"items": { 
    "maxLength": 64,
    "type": "string"
    },
  "minItems": 1,
  "readOnly": true,
  "type": "array"
},
"openLevel": {
    "description": "How open or ajar the entity is",
    "type": "integer"
  },
  "precision": {
    "description": "Accuracy granularity of the exposed value",
  }
}
"readOnly": true,
"type": "number"
},

"value": {
  "anyOf": [
    { "type": "array" },
    { "type": "string" },
    { "type": "boolean" },
    { "type": "integer" },
    { "type": "number" },
    { "type": "object" }
  ],
  "description": "The value sensed or actuated by this Resource"
},

"n": {
  "description": "Friendly name of the resource",
  "maxLength": 64,
  "readOnly": true,
  "type": "string"
},

"range": {
  "description": "The valid range for the value Property",
  "items": {
    "anyOf": [
      { "type": "number" },
      { "type": "integer" }
    ]
  },
  "maxItems": 2,
  "minItems": 2,
  "readOnly": true,
  "type": "array"
},

"increment": {
  "description": "Deprecated, use 'step' instead."
},

"step": {
  "anyOf": [
    { "type": "integer" },
    { "type": "number" }
B.89.5 Property Definition

Table 415 The properties definitions of the resource

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>id</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Instance ID of this specific resource</td>
</tr>
<tr>
<td>n</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Friendly name of the resource</td>
</tr>
<tr>
<td>openLevel</td>
<td>integer</td>
<td>Yes</td>
<td>Read Write</td>
<td>How open or ajar the entity is</td>
</tr>
<tr>
<td>range</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>The valid range for the value Property</td>
</tr>
<tr>
<td>precision</td>
<td>number</td>
<td>No</td>
<td>Read Only</td>
<td>Accuracy granularity of the exposed value</td>
</tr>
<tr>
<td>Step</td>
<td>Multiple Types: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>Step value across the defined range</td>
</tr>
<tr>
<td>--------</td>
<td>---------------------------</td>
<td>----</td>
<td>-----------</td>
<td>-------------------------------------</td>
</tr>
<tr>
<td>Value</td>
<td>Multiple Types: see schema</td>
<td>No</td>
<td>Read Write</td>
<td>The value sensed or actuated by this Resource</td>
</tr>
<tr>
<td>Rt</td>
<td>Array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>Resource Type</td>
</tr>
<tr>
<td>Increment</td>
<td>Integer</td>
<td>No</td>
<td>Read Only</td>
<td>Deprecated, use 'step' instead.</td>
</tr>
<tr>
<td>If</td>
<td>Array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>The interface set supported by this resource</td>
</tr>
</tbody>
</table>

B.89.6 CRUDN behaviour

Table 416 The CRUDN operations of the resource

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/OpenLevelResURI</td>
<td>get</td>
<td>post</td>
<td></td>
<td></td>
<td>observe</td>
</tr>
</tbody>
</table>

B.90 Operational State

B.90.1 Introduction

This resource describes the operational and job states on a device.

The states can be read or set, setting indicates a desired state.

A device may reject an attempt to set a state that would result in adverse operational characteristics.

The machineStates is an array of the possible operational states.

The currentMachineState is the current state of operation of the device.

The jobStates is an array of the possible job states.

The currentJobState is the currently active jobState.

The runningTime is the ISO8601 encoded elapsed time in the current operational state.

The remainingTime is the ISO8601 encoded time till completion of the current operational state.

The progressPercentage is the percentage completeness of the current jobState.

B.90.2 Example URI

/OperationalStateResURI

B.90.3 Resource Type

The resource type (rt) is defined as: ['oic.r.operational.state'].

B.90.4 Swagger2.0 Definition

```json
{
   "swagger": "2.0",
   "info": {
      "title": "Operational State",
      "version": "v1.1.0-20160519",
      "license": {
         "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved."
      }
   }
}
```

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OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY

OF SUCH DAMAGE.

", "schemes": ["http"],
"consumes": ["application/json"],
"produces": ["application/json"],
"paths": {
"/OperationalStateResURI" : {
"get": {
"description": "This resource describes the operational and job states on a device. The states can be read or set, setting indicates a desired state. A device may reject an attempt to set a state that would result in adverse operational characteristics. The machineStates is an array of the possible operational states. The currentMachineState is the current state of operation of the device. The jobStates is an array of the possible job states. The currentJobState is the currently active jobState. The runningTime is the ISO8601 encoded elapsed time in the current operational state. The remainingTime is the ISO8601 encoded time till completion of the current operational state. The progressPercentage is the percentage completeness of the current jobState. Retrieves the current operational and job states.",
"parameters": [ {"$ref": "#/parameters/interface"} ],
"responses": { "200": {
"description": "",
"x-example": {
"rt": ["oic.r.operational.state"],
"id": "unique_example_id",
"machineStates": ["pause", "stopped", "idle", "active"],
"currentMachineState": "active",
"jobStates": ["preWash", "wash", "rinse", "spin", "dry", "airDry", "wrinklePrevent"],
"currentJobState": "rinse",
"runningTime": "PT15M20S",
"remainingTime": "PT10M40S",
"progressPercentage": 75
}
} }
},
"post": {
"description": "Sets the desired operational or job state.",
"parameters": [ {"$ref": "#/parameters/interface"} ],
"name": "body",
"in": "body",
"required": true,
"schema": { "$ref": "#/definitions/OperationUpdate" },
"x-example": {
"id": "unique_example_id",
"currentMachineState": "pause",
"currentJobState": "wash"
}
} }
,"responses": {
"200": {
  "description": "",
  "x-example": {
    "id": "unique_example_id",
    "currentMachineState": "pause",
    "currentJobState": "wash"
  }
  "schema": { "$ref": "#/definitions/OperationUpdate" } 
},
"403": {
  "description": "This response is generated by the OIC Server when the client sends:
  An update with an value for currentMachineState that is not found in machineStates.
  An
update with an value for currentJobState that is not found in jobStates.
The server responds with
the current resource representation."
, "x-example": {
    "id": "unique_example_id",
    "machineStates": ["pause", "stopped", "idle", "active"],
    "currentMachineState": "active",
    "jobStates": ["preWash", "wash", "rinse", "spin", "dry", "airDry", "wrinklePrevent"],
    "currentJobState": "rinse",
    "runningTime": "PT15M20S",
    "remainingTime": "PT10M40S",
    "progressPercentage": 75
  }
  "schema": { "$ref": "#/definitions/Operation" } 
},
"parameters": {
  "interface": {
    "in": "query",
    "name": "if",
    "type": "string",
    "enum": ["oic.if.a", "oic.if.baseline"]
  }
},
"definitions": {
  "Operation": {
    "properties": {
      "rt": {
        "description": "Resource Type",
        "items": {
          "maxLength": 64,
          "type": "string"
        },
        "minItems": 1,
        "readOnly": true,
        "type": "array"
      },
      "currentMachineState": {
        "description": "Current state of operation of the device.",
        "type": "string"
      },
      "currentJobState": {
        "description": "Currently active jobState",
        "type": "string"
      },
      "machineStates": 
    }
  }
}
"description": "array of the possible operational states.",
"items": {
  "type": "string"
},
"readOnly": true,
"type": "array"
},
"precision": {
  "description": "Accuracy granularity of the exposed value",
  "readOnly": true,
  "type": "number"
},
"value": {
  "anyOf": [
    {
      "type": "array"
    },
    {
      "type": "string"
    },
    {
      "type": "boolean"
    },
    {
      "type": "integer"
    },
    {
      "type": "number"
    },
    {
      "type": "object"
    }
  ],
  "description": "The value sensed or actuated by this Resource"
},
"n": {
  "description": "Friendly name of the resource",
  "maxLength": 64,
  "readOnly": true,
  "type": "string"
},
"runningTime": {
  "description": "Elapsed time in the current operational state",
  "readOnly": true,
  "type": "string"
},
"range": {
  "description": "The valid range for the value Property",
  "items": {
    "anyOf": [
      {
        "type": "number"
      },
      {
        "type": "integer"
      }
    ],
    "maxItems": 2,
    "minItems": 2,
"readOnly": true,
"type": "array",

"remainingTime": {
  "description": "Time till completion of the current operational state",
  "readOnly": true,
  "type": "string"
},

"step": {
  "anyOf": [
    {
      "type": "integer"
    },
    {
      "type": "number"
    }
  ],
  "description": "Step value across the defined range",
  "readOnly": true
},

"progressPercentage": {
  "description": "Percentage completeness of the current jobState",
  "maximum": 100,
  "minimum": 0,
  "readOnly": true,
  "type": "integer"
},

"id": {
  "description": "Instance ID of this specific resource",
  "maxLength": 64,
  "readOnly": true,
  "type": "string"
},

"jobStates": {
  "description": "array of the possible job states."
},

"if": {
  "description": "The interface set supported by this resource",
  "items": {
    "enum": ["oic.if.baseline", "oic.if.ll", "oic.if.b", "oic.if.lb", "oic.if.rw", "oic.if.r", "oic.if.a", "oic.if.s"],
    "type": "string"
  },
  "minItems": 1,
  "readOnly": true,
  "type": "array"
"type": "object",
"required": ["machineStates", "currentMachineState"]
}

"OperationUpdate": {
"properties": {
  "rt": {
    "description": "Resource Type",
    "items": {
      "maxLength": 64,
      "type": "string"
    },
    "minItems": 1,
    "readOnly": true,
    "type": "array"
  },
  "currentMachineState": {
    "description": "Current state of operation of the device.",
    "type": "string"
  },
  "currentJobState": {
    "description": "Currently active jobState",
    "type": "string"
  },
  "precision": {
    "description": "Accuracy granularity of the exposed value",
    "readOnly": true,
    "type": "number"
  },
  "value": {
    "anyOf": [
      {
        "type": "array"
      },
      {
        "type": "string"
      },
      {
        "type": "boolean"
      },
      {
        "type": "integer"
      },
      {
        "type": "number"
      },
      {
        "type": "object"
      }
    ],
    "description": "The value sensed or actuated by this Resource"
  },
  "n": {
    "description": "Friendly name of the resource",
    "maxLength": 64,
    "readOnly": true,
    "type": "string"
"range": {
  "description": "The valid range for the value Property",
  "items": {
    "anyOf": [
      { "type": "number" },
      { "type": "integer" }
    ]
  },
  "maxItems": 2,
  "minItems": 2,
  "readOnly": true,
  "type": "array"
},
"step": {
  "anyOf": [
    { "type": "integer" },
    { "type": "number" }
  ],
  "description": "Step value across the defined range",
  "readOnly": true
},
"id": {
  "description": "Instance ID of this specific resource",
  "maxLength": 64,
  "readOnly": true,
  "type": "string"
},
"if": {
  "description": "The interface set supported by this resource",
  "items": {
    "enum": [
      "oic.if.baseline",
      "oic.if.ll",
      "oic.if.b",
      "oic.if.lb",
      "oic.if.rw",
      "oic.if.r",
      "oic.if.a",
      "oic.if.s"
    ],
    "type": "string"
  },
  "minItems": 1,
  "readOnly": true,
  "type": "array"
}
### Property Definition

Table 417 The properties definitions of the resource

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>rt</td>
<td>array: see schema</td>
<td></td>
<td>Read Only</td>
<td>Resource Type</td>
</tr>
<tr>
<td>currentJobState</td>
<td>string</td>
<td></td>
<td>Read Write</td>
<td>Currently active jobState</td>
</tr>
<tr>
<td>n</td>
<td>string</td>
<td></td>
<td>Read Only</td>
<td>Friendly name of the resource</td>
</tr>
<tr>
<td>range</td>
<td>array: see schema</td>
<td></td>
<td>Read Only</td>
<td>The valid range for the value Property</td>
</tr>
<tr>
<td>step</td>
<td>multiple types: see schema</td>
<td></td>
<td>Read Only</td>
<td>Step value across the defined range</td>
</tr>
<tr>
<td>currentMachineState</td>
<td>string</td>
<td></td>
<td>Read Write</td>
<td>Current state of operation of the device.</td>
</tr>
<tr>
<td>precision</td>
<td>number</td>
<td></td>
<td>Read Only</td>
<td>Accuracy granularity of the exposed value</td>
</tr>
<tr>
<td>id</td>
<td>string</td>
<td></td>
<td>Read Only</td>
<td>Instance ID of this specific resource</td>
</tr>
<tr>
<td>if</td>
<td>array: see schema</td>
<td></td>
<td>Read Only</td>
<td>The interface set supported by this resource</td>
</tr>
<tr>
<td>value</td>
<td>multiple types: see schema</td>
<td></td>
<td>Read Write</td>
<td>The value sensed or actuated by this Resource</td>
</tr>
<tr>
<td>rt</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>Resource Type</td>
</tr>
<tr>
<td>n</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Friendly name of the resource</td>
</tr>
<tr>
<td>range</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>The valid range for the value Property</td>
</tr>
<tr>
<td>machineStates</td>
<td>array: see schema</td>
<td>Yes</td>
<td>Read Only</td>
<td>array of the possible</td>
</tr>
<tr>
<td>Property</td>
<td>Type</td>
<td>Access</td>
<td>Mode</td>
<td>Description</td>
</tr>
<tr>
<td>------------------------</td>
<td>-------------------------------</td>
<td>---------</td>
<td>--------------</td>
<td>-----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>currentJobState</td>
<td>string</td>
<td>No</td>
<td>Read Write</td>
<td>Currently active jobState</td>
</tr>
<tr>
<td>jobStates</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>array of the possible job states.</td>
</tr>
<tr>
<td>runningTime</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Elapsed time in the current operational state</td>
</tr>
<tr>
<td>remainingTime</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Time till completion of the current operational state</td>
</tr>
<tr>
<td>value</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>Read Write</td>
<td>The value sensed or actuated by this Resource</td>
</tr>
<tr>
<td>progressPercentage</td>
<td>integer</td>
<td>No</td>
<td>Read Only</td>
<td>Percentage completeness of the current jobState</td>
</tr>
<tr>
<td>step</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>Step value across the defined range</td>
</tr>
<tr>
<td>currentMachineState</td>
<td>string</td>
<td>Yes</td>
<td>Read Write</td>
<td>Current state of operation of the device.</td>
</tr>
<tr>
<td>precision</td>
<td>number</td>
<td>No</td>
<td>Read Only</td>
<td>Accuracy granularity of the exposed value</td>
</tr>
<tr>
<td>id</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Instance ID of this specific resource</td>
</tr>
<tr>
<td>if</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>The interface set supported by this resource</td>
</tr>
</tbody>
</table>
B.90.6 CRUDN behaviour

Table 418 The CRUDN operations of the resource

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/OperationalStateResURI</td>
<td>get</td>
<td>post</td>
<td>observe</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

B.91 Optical RFID Station

B.91.1 Introduction
The process represents the stage of the product in the product line which has an optical RFID tag on its body.
Event is represented by a Boolean value set to "True" and "False" alarming the issue when additional action is requested for the tagged product.
Actionrequest represent necessary actions like the isolation of the product, to send the product back to other specific line to modify or fix the issue.

B.91.2 Example URI
/ORFIDStationResURI

B.91.3 Resource Type
The resource type (rt) is defined as: ['oic.r.orfid.station'].

B.91.4 Swagger2.0 Definition

```json
{
  "swagger": "2.0",
  "info": {
    "title": "Optical RFID Station",
    "version": "Version 2018-01-30",
    "license": {
      "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
      "x-description": "Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.

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    },
    "schemes": ["http"],
    "consumes": ["application/json"],
    "produces": ["application/json"],
    "paths": {
      "/ORFIDStationResURI" : {
        "get": {
          "description": "The process represents the stage of the product in the product line which has an optical RFID tag on its body.\nEvent is represented by a Boolean value set to "True" and "False" alarming the issue when additional action is requested for the tagged product.\nActionrequest represent necessary actions like the isolation of the product, to send the product back to other specific line to modify or fix the issue.\nRetrieves the station information from optical augmented RFID reader in smart factory environment.\n",
          "parameters": ["$ref": "/parameters/interface"]
        },
        "responses": {
```
"200": {
  "description": "",
  "x-example": {
    "rt": ["oic.r.orfid.station"],
    "id": "unique_example_id",
    "process": 17,
    "event": true,
    "actionrequest": 2
  }
},
"schema": { "$ref": "#/definitions/ORFID" }
},
"post": {
  "description": "Sets necessary action in accordance with Tag Information\n",
  "parameters": [
    { "$ref": "#/parameters/interface" },
    { "name": "body",
      "in": "body",
      "required": true,
      "schema": { "$ref": "#/definitions/ORFID" },
      "x-example": {
        "event": false,
        "actionrequest": 0
      }
    }
  ],
  "responses": {
    "200": {
      "description": "",
      "x-example": {
        "event": false,
        "actionrequest": 0
      }
    },
    "schema": { "$ref": "#/definitions/ORFID" }
  }
},
"parameters": {
  "interface": {
    "in": "query",
    "name": "if",
    "type": "string",
    "enum": ["oic.if.rw", "oic.if.baseline"]
  }
},
"definitions": {
  "ORFID": {
    "properties": {
      "rt": {
        "description": "Resource Type",
        "items": {
          "maxLength": 64,
          "type": "string"
        },
        "minItems": 1,
        "readOnly": true,
        "type": "array"
      },
      "step" :
    }
  }
}
"anyOf": [
    {
        "type": "integer"
    },
    {
        "type": "number"
    }]
},
"description": "Step value across the defined range",
"readOnly": true,
},
"process" :
{
    "description": "the process step that is being performed at this station",
    "readOnly": true,
    "type": "integer"
},
"precision" :
{
    "description": "Accuracy granularity of the exposed value",
    "readOnly": true,
    "type": "number"
},
"value" :
{
    "anyOf": [
        {
            "type": "array"
        },
        {
            "type": "string"
        },
        {
            "type": "boolean"
        },
        {
            "type": "integer"
        },
        {
            "type": "number"
        },
        {
            "type": "object"
        },
        {
            "description": "The value sensed or actuated by this Resource"
        },
    ],
"n" :
{
    "description": "Friendly name of the resource",
    "maxLength": 64,
    "readOnly": true,
    "type": "string"
},
"actionrequest" :
{
    "description": "the action request identifier",
    "type": "integer"
},
"range" :
{
    "description": "The valid range for the value Property",
    "items": [
        {"anyOf": [n]
        }]}
 B.91.5  Property Definition

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>precision</td>
<td>number</td>
<td>No</td>
<td>Read Only</td>
<td>Accuracy granularity of the exposed value</td>
</tr>
<tr>
<td>actionrequest</td>
<td>integer</td>
<td>Yes</td>
<td>Read Write</td>
<td>the action request identifier</td>
</tr>
</tbody>
</table>

Table 419 The properties definitions of the resource
<table>
<thead>
<tr>
<th>range</th>
<th>array: see schema</th>
<th>No</th>
<th>Read Only</th>
<th>The valid range for the value Property</th>
</tr>
</thead>
<tbody>
<tr>
<td>event</td>
<td>boolean</td>
<td>Yes</td>
<td>Read Write</td>
<td>when True, the action request should be applied to the product identified by the tagid</td>
</tr>
<tr>
<td>process</td>
<td>integer</td>
<td>No</td>
<td>Read Only</td>
<td>the process step that is being performed at this station</td>
</tr>
<tr>
<td>rt</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>Resource Type</td>
</tr>
<tr>
<td>step</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>Step value across the defined range</td>
</tr>
<tr>
<td>if</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>The interface set supported by this resource</td>
</tr>
<tr>
<td>id</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Instance ID of this specific resource</td>
</tr>
<tr>
<td>value</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>Read Write</td>
<td>The value sensed or actuated by this Resource</td>
</tr>
<tr>
<td>n</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Friendly name of the resource</td>
</tr>
</tbody>
</table>

### B.91.6 CRUDN behaviour

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/ORFIDStationResURI</td>
<td>get</td>
<td>post</td>
<td></td>
<td></td>
<td>observe</td>
</tr>
</tbody>
</table>

### B.92 Optical RFID Tag

#### B.92.1 Introduction

The tagid is an integer showing the currently read optical augmented RFID tag's identity information.

#### B.92.2 Example URI

/ORFIDTagResURI

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B.92.3 Resource Type

The resource type (rt) is defined as: ['oic.r.orfid.tag'].

B.92.4 Swagger2.0 Definition

```json
{
    "swagger": "2.0",
    "info": {
        "title": "Optical RFID Tag",
        "version": "Version 2018-01-30",
        "license": {
            "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
            "x-description": "Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:
            1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
            2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.
            THIS SOFTWARE IS PROVIDED BY THE Open Connectivity Foundation, INC. "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR WARRANTIES OF NON-INFRINGEMENT, ARE DISCLAIMED. IN NO EVENT SHALL THE Open Connectivity Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE."
        }
    },
    "schemes": ["http"],
    "consumes": ["application/json"],
    "produces": ["application/json"],
    "paths": {
        "/ORFIDTagResURI" : {
            "get": {
                "description": "The tagid is an integer showing the currently read optical augmented RFID tag’s identity information. Retrieves the tag information from optical augmented RFID reader in smart factory environment.",
                "parameters": [ {
                    "$ref": "#/parameters/interface"
                } ],
                "responses": {
                    "200": {
                        "description": "",
                        "x-example": {
                            "rt": ["oic.r.orfid.tag"],
                            "id": "unique_example_id",
                            "tagid": 10965742,
                            "reading" : true
                        }
                    }
                },
                "schema": { "$ref": "#/definitions/ORFID" }
            }
        }
    },
    "parameters": {
        "interface" : {
            "in": "query",
            "name" : "if",
            "type": "string",
            "enum": ["oic.if.r", "oic.if.baseline"]
        }
    },
    "definitions": {
        "ORFID" : {
            "properties": {
                "rt" : {
                    "description": "",
                    "x-example": {
                        "rt": ["oic.r.orfid.tag"],
                        "id": "unique_example_id",
                        "tagid": 10965742,
                        "reading" : true
                    }
                }
            }
        }
    }
}
```
"description": "Resource Type",
"items": {
  "maxLength": 64,
  "type": "string"
},
"minItems": 1,
"readOnly": true,
"type": "array"
},
"tagid": {
  "description": "the tag read by the reader",
  "readOnly": true,
  "type": "integer"
},
"precision": {
  "description": "Accuracy granularity of the exposed value",
  "readOnly": true,
  "type": "number"
},
"value": {
  "anyOf": [
    { "type": "array" },
    { "type": "string" },
    { "type": "boolean" },
    { "type": "integer" },
    { "type": "number" },
    { "type": "object" }
  ],
  "description": "The value sensed or actuated by this Resource"
},
"n": {
  "description": "Friendly name of the resource",
  "maxLength": 64,
  "readOnly": true,
  "type": "string"
},
"range": {
  "description": "The valid range for the value Property",
  "items": {
    "anyOf": [
      { "type": "number" },
      { "type": "integer" }
    ],
    "maxItems": 2,
    "maxLength": 64,
    "readOnly": true,
    "type": "string"
  },
  "minItems": 1,
  "readOnly": true,
  "type": "array"}
"minItems": 2,
"readOnly": true,
"type": "array"
},

"step": {
"anyOf": [
{
"type": "integer"
},
{
"type": "number"
}
],
"description": "Step value across the defined range",
"readOnly": true
},

"reading": {
"description": "true, the tagid is read e.g. being valid. false, the tagid is invalid",
"readOnly": true,
"type": "boolean"
},

"id": {
"description": "Instance ID of this specific resource",
"maxLength": 64,
"readOnly": true,
"type": "string"
},

"if": {
"description": "The interface set supported by this resource",
"items": [
"enum": [
"oic.if.baseline",
"oic.if.ll",
"oic.if.lb",
"oic.if.rw",
"oic.if.r",
"oic.if.a",
"oic.if.s"
],
"type": "string"
},

"minItems": 1,
"readOnly": true,
"type": "array"
}

B.92.5 Property Definition

Table 421 The properties definitions of the resource

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rt</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>Resource Type</td>
</tr>
<tr>
<td>Property</td>
<td>Type</td>
<td>Read Only</td>
<td>Description</td>
<td></td>
</tr>
<tr>
<td>----------</td>
<td>---------------</td>
<td>-----------</td>
<td>-------------</td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>string</td>
<td>No</td>
<td>Friendly name of the resource</td>
<td></td>
</tr>
<tr>
<td>Id</td>
<td>string</td>
<td>No</td>
<td>Instance ID of this specific resource</td>
<td></td>
</tr>
<tr>
<td>If</td>
<td>array: see schema</td>
<td>No</td>
<td>The interface set supported by this resource</td>
<td></td>
</tr>
<tr>
<td>step</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>Step value across the defined range</td>
<td></td>
</tr>
<tr>
<td>reading</td>
<td>boolean</td>
<td>Yes</td>
<td>true, the tagid is read e.g. being valid. false, the tagid is invalid</td>
<td></td>
</tr>
<tr>
<td>tagid</td>
<td>integer</td>
<td>Yes</td>
<td>The tag read by the reader</td>
<td></td>
</tr>
<tr>
<td>range</td>
<td>array: see schema</td>
<td>No</td>
<td>The valid range for the value Property</td>
<td></td>
</tr>
<tr>
<td>value</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>The value sensed or actuated by this Resource</td>
<td></td>
</tr>
<tr>
<td>precision</td>
<td>number</td>
<td>No</td>
<td>Accuracy granularity of the exposed value</td>
<td></td>
</tr>
</tbody>
</table>

### B.92.6 CRUDN behaviour

Table 422 The CRUDN operations of the resource

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/ORFIDTagResURI</td>
<td>get</td>
<td></td>
<td></td>
<td></td>
<td>observe</td>
</tr>
</tbody>
</table>

### B.93 Power Source

#### B.93.1 Introduction

This resource lists the available power sources for the device.

The list is read only and is informative only.

If there is more than 1 power sources active, use multiple resources to indicate the active power sources.

Retrieves the list of available power sources. If the power source is unknown use the value "unknown".
4563 B.93.2 Example URI
4564 /PowerResourcesExampleResourceURI
4565
4566 B.93.3 Resource Type
4567 The resource type (rt) is defined as: ['oic.r.powersource'].
4568
4569 B.93.4 Swagger2.0 Definition
4570
4571 {  
4572   "swagger": "2.0",
4573   "info": {
4574     "title": "PowerSource",
4575     "version": "0.1",
4576     "license": {
4577       "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved."
4578     },
4579     "x-description": "Redistribution and use in source and binary forms, with or without
4580     modification, are permitted provided that the following conditions are met:
4581     1. Redistributions of source code must retain the above copyright notice, this list of conditions and
4582     the following disclaimer.  
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4595     OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY
4596     OF SUCH DAMAGE.
4597   },
4598   "schemes": ["http"],
4599   "consumes": ["application/json"],
4600   "produces": ["application/json"],
4601   "paths": {
4602     "/PowerResourcesExampleResourceURI" : {
4603       "get": {
4604         "description": "This resource list the available power sources for the device. The list is
4605         read only and is informative only. If there is more than 1 power sources active, use multiple
4606         resources into indicate the active power sources. Retrieves the list of available power
4607         sources. If the power source is unknown use the value "unknown".
4608       },
4609       "parameters": [  
4610         ["$ref": "/parameters/interface"]
4611       ],
4612       "responses": {
4613         "200": {
4614           "description": "",
4615           "x-example": {
4616             "rt": "["oic.r.powersource"]",
4617             "id": "unique_example_id",
4618             "powerSources": ["DC power",
4619             "Internal Battery",
4620             "External Battery",
4621             "Power over Ethernet",
4622             "USB",
4623             "AC (Mains) Power",
4624             "Solar"]
4625         }
4626       },
4627       "schema": { "$ref": "/definitions/powerSourceSchema" }
4628       }
4629     }
4630   },
4631   "parameters": {
4632     "interface": {
4633       "in": "query",
4634     }
4635   },
4636   "parameters": {
4637     "interface": {  
4638       "in": "query",
4639     }
4640   }
4641 });
4642 });

"name": "if",
"type": "string",
"enum": ["oic.if.r", "oic.if.baseline"]
}
"
definitions": {
"powerSourceSchema": {
"properties": {
"rt": {
"items": {
"maxLength": 64,
"type": "string"
},
"minItems": 1,
"readOnly": true,
"type": "array"
},
"powerSources": {
"items": {
"enum": ["unknown",
"DC power",
"Internal Battery",
"External Battery",
"Power over Ethernet",
"USB",
"AC (Mains) Power",
"Solar"
],
"minItems": 1,
"type": "string",
"uniqueItems": true
},
"type": "array"
},
"precision": {
"description": "Accuracy granularity of the exposed value",
"readOnly": true,
"type": "number"
},
"value": {
"anyOf": [
{"type": "array"},
{"type": "string"},
{"type": "boolean"},
{"type": "integer"},
{"type": "number"},
{"type": "object"}
],
"description": "The value sensed or actuated by this Resource"}},
"n": {
  "description": "Friendly name of the resource",
  "maxLength": 64,
  "readOnly": true,
  "type": "string"
},

"range": {
  "description": "The valid range for the value Property",
  "items": [
    "anyOf": [
      { "type": "number"
      },
      { "type": "integer"
      }]
  ],
  "maxItems": 2,
  "minItems": 2,
  "readOnly": true,
  "type": "array"
},

"step": {
  "anyOf": [
    { "type": "integer"
    },
    { "type": "number"
    }
  ],
  "description": "Step value across the defined range",
  "readOnly": true
},

"id": {
  "description": "Instance ID of this specific resource",
  "maxLength": 64,
  "readOnly": true,
  "type": "string"
},

"if": {
  "description": "The interface set supported by this resource",
  "items": [
    "enum": [
      "oic.if.baseline",
      "oic.if.ll",
      "oic.if.b",
      "oic.if.lb",
      "oic.if.rw",
      "oic.if.r",
      "oic.if.a",
      "oic.if.s"
    ],
    "type": "string"
  ],
  "minItems": 1,
  "readOnly": true,
  "type": "array"
}
B.93.5 Property Definition

Table 423 The properties definitions of the resource

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>if</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>The interface set supported by this resource</td>
</tr>
<tr>
<td>value</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>Read Write</td>
<td>The value sensed or actuated by this Resource</td>
</tr>
<tr>
<td>id</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Instance ID of this specific resource</td>
</tr>
<tr>
<td>powerSources</td>
<td>array: see schema</td>
<td>Yes</td>
<td>Read Write</td>
<td></td>
</tr>
<tr>
<td>n</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Friendly name of the resource</td>
</tr>
<tr>
<td>rt</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>Resource Type</td>
</tr>
<tr>
<td>precision</td>
<td>number</td>
<td>No</td>
<td>Read Only</td>
<td>Accuracy granularity of the exposed value</td>
</tr>
<tr>
<td>step</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>Step value across the defined range</td>
</tr>
<tr>
<td>range</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>The valid range for the value Property</td>
</tr>
</tbody>
</table>

B.93.6 CRUDN behaviour

Table 424 The CRUDN operations of the resource

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/PowerResourcesExampleResourceURI</td>
<td>get</td>
<td></td>
<td></td>
<td></td>
<td>observe</td>
</tr>
</tbody>
</table>

B.94 Presence Sensor

B.94.1 Introduction

This resource describes whether presence has been sensed or not.
The value is a boolean.
A value of ‘true’ means that presence has been sensed.
A value of 'false' means that presence not been sensed.

B.94.2 Example URI

/PresenceResURI

B.94.3 Resource Type

The resource type (rt) is defined as: ['oic.r.sensor.presence'].

B.94.4 Swagger2.0 Definition

```json
{
  "swagger": "2.0",
  "info": {
    "title": "Presence Sensor",
    "version": "v1.1.0-20160519",
    "license": {
      "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
      "x-description": "Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

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    }
  }
}
```

"schemes": ["http"],
"consumes": ["application/json"],
"produces": ["application/json"],
"paths": {
  "/PresenceResURI": {
    "get": {
      "description": "This resource describes whether presence has been sensed or not. The value is a boolean. A value of 'true' means that presence has been sensed. A value of 'false' means that presence not been sensed.",
      "parameters": [
        {"$ref": "#/parameters/interface"}
      ],
      "responses": {
        "200": {
          "description": "",
          "x-example": {
            "rt": ["oic.r.sensor.presence"],
            "id": "unique_example_id",
            "value": true
          }
        }
      },
      "schema": { "$ref": "#/definitions/Presence" }
    }
  }
}
```

"parameters": {
  "interface": {
    "in": "query",
    "name": "if",
    "type": "string",
    "enum": ["oic.if.s", "oic.if.baseline"]
  }
}````
"definitions": {
  "Presence": {
    "properties": {
      "rt": {
        "description": "Resource Type",
        "items": {
          "maxLength": 64,
          "type": "string"
        },
        "minItems": 1,
        "readonly": true,
        "type": "array"
      },
      "precision": {
        "description": "Accuracy granularity of the exposed value",
        "readonly": true,
        "type": "number"
      },
      "value": {
        "description": "true = sensed, false = not sensed.",
        "readonly": true,
        "type": "boolean"
      },
      "n": {
        "description": "Friendly name of the resource",
        "maxLength": 64,
        "readonly": true,
        "type": "string"
      },
      "range": {
        "description": "The valid range for the value Property",
        "items": {
          "anyOf": [
            { "type": "number" },
            { "type": "integer" }
          ],
          "maxItems": 2,
          "minItems": 2,
          "readonly": true,
          "type": "array"
        },
B.94.5 Property Definition

Table 425 The properties definitions of the resource

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>step</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>Step value across the defined range</td>
</tr>
<tr>
<td>range</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>The valid range for the value Property</td>
</tr>
<tr>
<td>n</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Friendly name of the resource</td>
</tr>
<tr>
<td>value</td>
<td>boolean</td>
<td>Yes</td>
<td>Read Only</td>
<td>true = sensed, false = not sensed.</td>
</tr>
<tr>
<td>precision</td>
<td>number</td>
<td>No</td>
<td>Read Only</td>
<td>Accuracy granularity of the exposed value</td>
</tr>
<tr>
<td>rt</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>Resource Type</td>
</tr>
</tbody>
</table>
B.94.6 CRUDN behaviour

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/PresenceResURI</td>
<td>get</td>
<td></td>
<td></td>
<td></td>
<td>observe</td>
</tr>
</tbody>
</table>

Table 426 The CRUDN operations of the resource

B.95 Print Queue

B.95.1 Introduction

This resource describes the items in a Printer Queue. The URI and status are read only items that cannot be changed through this resource.

B.95.2 Example URI

/PrintQueueResURI

B.95.3 Resource Type

The resource type (rt) is defined as: ['oic.r.printer.queue'].

B.95.4 Swagger2.0 Definition

```json
{
  "swagger": "2.0",
  "info": {
    "title": "Print Queue",
    "version": "v1.1.0-20180115",
    "license": {
      "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
      "x-description": "Redistribution and use in source and binary forms, with or without
      modification, are permitted provided that the following conditions are met:
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      OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY
      OF SUCH DAMAGE.""
  },
  "schemes": ["http"],
  "consumes": ["application/json"],
  "produces": ["application/json"],
  "paths": {
    "/PrintQueueResURI" : {
      "get": {
        "description": "This resource describes the items in a Printer Queue. The URI and status
        are read only items that cannot be changed through this resource.
        Retrieves the current Print Queue."
      },
      "parameters": [
        {
          "$ref": "#/parameters/interface"
        }
      ]
    }
  }
}
```
"responses": {
  "200": {
    "description": "",
    "x-example": {
      "rt": ["oic.r.printer.queue"],
      "id": "unique_example_id",
      "queue": {
        "uri": "10.10.10.10/3dprinter/queueitem/1",
        "status": "Printing"
      },
      "uri": "10.10.10.10/3dprinter/queueitem/2",
      "status": "Pending"
    }
  },
  "schema": { "$ref": "#/definitions/PrintQueue" }
},
"parameters": {
  "interface": {
    "in": "query",
    "name": "if",
    "type": "string",
    "enum": ["oic.if.r", "oic.if.baseline"]
  }
},
"definitions": {
  "PrintQueue": {
    "properties": {
      "rt": {
        "description": "Resource Type",
        "items": {
          "maxLength": 64,
          "type": "string"
        },
        "minItems": 1,
        "readOnly": true,
        "type": "array"
      },
      "precision": {
        "description": "Accuracy granularity of the exposed value",
        "readOnly": true,
        "type": "number"
      },
      "value": {
        "anyOf": [
          {
            "type": "array"
          },
          {
            "type": "string"
          },
          {
            "type": "boolean"
          },
          {
            "type": "integer"
          }
        ]
      }
    }
  }
}


```
{
  "type": "object"
}
{
  "type": "object"
}
{
  "description": "The value sensed or actuated by this Resource"
}
{
  "n": {
    "description": "Friendly name of the resource",
    "maxLength": 64,
    "readOnly": true,
    "type": "string"
  },
  "queue": {
    "description": "The array of queue items for the printer.",
    "items": {
      "properties": {
        "status": {
          "description": "The status of the queue item.",
          "enum": [
            "Printing",
            "Pending",
            "Paused",
            "Error",
            "Unknown"
          ],
          "readOnly": true,
          "type": "string"
        },
        "uri": {
          "description": "The URI of the queue item.",
          "format": "uri",
          "maxLength": 256,
          "readOnly": true,
          "type": "string"
        }
      },
      "readOnly": true,
      "type": "array"
    }
  }
}
{
  "range": {
    "description": "The valid range for the value Property",
    "items": {
      "anyOf": {
        "type": "number"
      },
      "type": "integer"
    },
    "maxItems": 2,
    "minItems": 2,
    "readOnly": true,
    "type": "array"
  }
}
```
{ "step": {
    "anyOf": [
        { "type": "integer" },
        { "type": "number" }
    ],
    "description": "Step value across the defined range",
    "readOnly": true
},
"id": {
    "description": "Instance ID of this specific resource",
    "maxLength": 64,
    "readOnly": true,
    "type": "string"
},
"if": {
    "description": "The interface set supported by this resource",
    "items": {
        "enum": [
            "oic.if.baseline",
            "oic.if.ll",
            "oic.if.b",
            "oic.if.lb",
            "oic.if.rw",
            "oic.if.r",
            "oic.if.s",
            "oic.if.a"
        ],
        "type": "string"
    },
    "minItems": 1,
    "readOnly": true,
    "type": "array"
}
},
"type": "object"
],
"required": ["queue"]
}

### B.95.5 Property Definition

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>precision</td>
<td>number</td>
<td>No</td>
<td>Read Only</td>
<td>Accuracy granularity of the exposed value</td>
</tr>
<tr>
<td>step</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>Step value across the defined range</td>
</tr>
<tr>
<td>if</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td></td>
</tr>
</tbody>
</table>

Table 427 The properties definitions of the resource
The interface set supported by this resource

---

**queue**
- array: see schema
- Yes
- Read Only
- The array of queue items for the printer.

**value**
- multiple types: see schema
- No
- Read Write
- The value sensed or actuated by this Resource

**n**
- string
- No
- Read Only
- Friendly name of the resource

**rt**
- array: see schema
- No
- Read Only
- Resource Type

**range**
- array: see schema
- No
- Read Only
- The valid range for the value Property

**id**
- string
- No
- Read Only
- Instance ID of this specific resource

### B.95.6 CRUDN behaviour

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/PrintQueueResURI</td>
<td>get</td>
<td></td>
<td></td>
<td></td>
<td>observe</td>
</tr>
</tbody>
</table>

### B.96 Pan Tilt Zoom Movement

#### B.96.1 Introduction

This resource specifies the pan tilt and zoom capabilities of a device.

- The resource rt is dynamic and reflects whether the values apply to physical movement of the device or digital/virtual enhancements to the image.
- For physical movement the rt is 'oic.r.movement.ptz'.
- For digital/virtual image enhancements the rt is 'oic.r.image.ptz'.
- The Pan and Tilt are specified in degrees.
- The Zoom Factor is a value in the range 1-100 for linear (optical) zoom.
- The Zoom Factor is a value in the range [1x, 2x, 4x, 8x, 16x, 32x] for digital zoom.
- If there is no zoom value to set the Zoom Factor shall be '1x'.
- The value 0 degrees means neutral, this is the vendor defined setting.
- Note that this resource also can be used to create an offset for physical movement.
- When that is the case, the rt value is: oic.r.movement.offset.ptz
- Note that this resource also can be used to create an offset for image movement.
- When that is the case, the rt value is: oic.r.image.offset.ptz
- When the pan_range value is omitted, then the range is [-180.0,180.0].
- If pan is not supported then the range shall be [0.0,0.0]
- When the tilt_range value is omitted, then the range is [-180.0,180.0].
- If tilt is not supported then the range shall be [0.0,0.0]
B.96.2 Example URI

/PanTiltZoomResURI

B.96.3 Resource Type

The resource type (rt) is defined as: ['oic.r.ptz'].

B.96.4 Swagger2.0 Definition

{
    "swagger": "2.0",
    "info": {
        "title": "Pan Tilt Zoom Movement",
        "version": "v1.1.0-20160519",
        "license": {
            "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
            "x-description": "Redistribution and use in source and binary forms, with or without
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OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY
OF SUCH DAMAGE."
    },
    "schemes": ["http"],
    "consumes": ["application/json"],
    "produces": ["application/json"],
    "paths": {
        "/PanTiltZoomResURI" : {
            "get": {
                "description": "This resource specifies the pan tilt and zoom capabilities of a
device. The resource rt is dynamic and reflects whether the values apply to physical movement
of the device or digital/virtual enhancements to the image. For physical movement the rt is
'oic.r.movement.ptz'. For digital/virtual image enhancements the rt is 'oic.r.image.ptz'. The Pan
and Tilt are specified in degrees. The Zoom Factor is a value in the range 1-100 for linear
(optical) zoom. The Zoom Factor is a value in the range [1x, 2x, 4x, 8x, 16x, 32x] for digital
zoom. If there is no zoom value to set the Zoom Factor shall be '1x'. The value 0 degrees means
neutral, this is the vendor defined setting. Note that this resource also can be used to create an
offset for physical movement. When that is the case, the rt value is:
'oic.r.movement.offset.ptz' Note that this resource also can be used to create an offset for image
movement. When that is the case, the rt value is: oic.r.image.offset.ptz'. When the pan_range value
is omitted, then the range is [-180.0,180.0]. If pan is not supported then the range shall be
[0.0,0.0]. When the tilt_range value is omitted, then the range is [-180.0,180.0]. If tilt is not
supported then the range shall be [0.0,0.0]. Retrieves the current pan, tilt and zoom setting.
"parameters": [
    {"$ref": "#/parameters/interface"}
],
    "responses": {
        "200": {
            "description": "",
            "x-example": {
                "rt": ['oic.r.ptz'],
                "id": "unique_example_id",
                "pan": 0.0,
                "tilt": 0.0,
                "zoomFactor": "2x"
            }
        }
    }
}
"post": {
  "description": "Sets the current pan, tilt and zoom value\n",
  "parameters": [
    {"$ref": "#/parameters/interface"},
    {
      "name": "body",
      "in": "body",
      "required": true,
      "schema": { "$ref": "#/definitions/PanTiltZoom" },
      "x-example": {
        "id": "unique_example_id",
        "pan": 10.0,
        "tilt": -10.0,
        "zoomFactor": "4x"
      }
    }
  ],
  "responses": {
    "200": {
      "description": "",
      "x-example": {
        "id": "unique_example_id",
        "pan": 10.0,
        "tilt": -10.0,
        "zoomFactor": "4x"
      }
    }
  }
},
  "parameters": {
    "interface": {
      "in": "query",
      "name": "if",
      "type": "string",
      "enum": ["oic.if.a", "oic.if.baseline"]
    }
  }
},
  "definitions": {
    "PanTiltZoom": {
      "properties": {
        "rt": {
          "description": "Resource Type",
          "items": {
            "maxLength": 64,
            "type": "string"
          },
          "minItems": 1,
          "readOnly": true,
          "type": "array"
        },
        "tilt_range": {
          "description": "Min and Max values for the tilt setting",
          "items": {
            "type": "number"
          },
          "maxItems": 2,
          "minItems": 2,
          "readOnly": true,
          "type": "array"
        }
      }
    }
  }
}
"zoomFactor": {
    "description": "The Zoomfactor value",
    "type": "string"
},

tilt: {
    "description": "vertical tilt in degrees",
    "type": "number"
},

"precision": {
    "description": "Accuracy granularity of the exposed value",
    "readOnly": true,
    "type": "number"
},

"value": {
    "anyOf": [
        {
            "type": "array"
        },
        {
            "type": "string"
        },
        {
            "type": "boolean"
        },
        {
            "type": "integer"
        },
        {
            "type": "number"
        },
        {
            "type": "object"
        }
    ],
    "description": "The value sensed or actuated by this Resource"
},

"n": {
    "description": "Friendly name of the resource",
    "maxLength": 64,
    "readOnly": true,
    "type": "string"
},

"range": {
    "description": "The valid range for the value Property",
    "items": {
        "anyOf": [
            {
                "type": "number"
            },
            {
                "type": "integer"
            }
        ]
    },
    "maxItems": 2,
    "minItems": 2,
    "readOnly": true,
    "type": "array"
"pan_range":
{
  "description": "Min and Max values for the pan setting",
  "items": [
    "type": "number"
  ],
  "maxItems": 2,
  "minItems": 2,
  "readOnly": true,
  "type": "array"
},

"step":
{
  "anyOf": [
    { "type": "integer" },
    { "type": "number" }
  ],
  "description": "Step value across the defined range",
  "readOnly": true
},

"zoomFactorRange":
{
  "description": "allowed Zoom Factor values. Linear equates to a 1-100 min/max.",
  "enum": [
    "linear",
    "1x",
    "2x",
    "4x",
    "8x",
    "16x",
    "32x"
  ],
  "readOnly": true,
  "type": "string"
},

"id":
{
  "description": "Instance ID of this specific resource",
  "maxLength": 64,
  "readOnly": true,
  "type": "string"
},

"pan":
{
  "description": "horizontal pan in degrees",
  "type": "number"
},

"if":
{
  "description": "The interface set supported by this resource",
  "items": [
    "enum": [
      "oic.if.baseline",
      "oic.if.ll",
      "oic.if.b",
      "oic.if.lb",
      "oic.if.rw",
      "oic.if.r",
      "oic.if.s",
      "oic.if.a"
    ],
    "type": "string"
B.96.5 Property Definition

Table 429 The properties definitions of the resource

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>step</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>Step value across the defined range</td>
</tr>
<tr>
<td>precision</td>
<td>number</td>
<td>No</td>
<td>Read Only</td>
<td>Accuracy granularity of the exposed value</td>
</tr>
<tr>
<td>if</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>The interface set supported by this resource</td>
</tr>
<tr>
<td>range</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>The valid range for the value Property</td>
</tr>
<tr>
<td>pan</td>
<td>number</td>
<td>Yes</td>
<td>Read Write</td>
<td>horizontal pan in degrees</td>
</tr>
<tr>
<td>zoomFactorRange</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>allowed Zoom Factor values. Linear equates to a 1-100 min/max.</td>
</tr>
<tr>
<td>zoomFactor</td>
<td>string</td>
<td>Yes</td>
<td>Read Write</td>
<td>The Zoomfactor value</td>
</tr>
<tr>
<td>pan_range</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>Min and Max values for the pan setting</td>
</tr>
<tr>
<td>n</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Friendly name of the resource</td>
</tr>
<tr>
<td>value</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>Read Write</td>
<td>The value sensed or actuated by this Resource</td>
</tr>
</tbody>
</table>
rt | array: see schema | No | Read Only | Resource Type
---|---|---|---|---
tilt_range | array: see schema | No | Read Only | Min and Max values for the tilt setting
tilt | number | Yes | Read Write | vertical tilt in degrees
id | string | No | Read Only | Instance ID of this specific resource

B.96.6 CRUDN behaviour

Table 430 The CRUDN operations of the resource

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/PanTiltZoomResURI</td>
<td>get</td>
<td>post</td>
<td></td>
<td></td>
<td>observe</td>
</tr>
</tbody>
</table>

B.97 Pulse Rate

B.97.1 Introduction

This resource describes the properties associated with a person's pulse rate.
The unit, which is the default unit, is bpm.
The PulseRate and unit Properties are read-only values that are provided by the server.
When range (from oic.r.baseresource) is omitted the default is 0 to +MAXFLOAT.

B.97.2 Example URI

/PulseRateResURI

B.97.3 Resource Type

The resource type (rt) is defined as: ['oic.r.pulserate'].

B.97.4 Swagger2.0 Definition

```json
{
  "swagger": "2.0",
  "info": {
    "title": "Pulse Rate",
    "version": "v1.1.0-20160519",
    "license": {
      "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
      "x-description": "Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions are met:

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ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR
OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY
OF SUCH DAMAGE."

"schemes": ["http"],
  "consumes": ["application/json"],
}
"produces": ["application/json"],
"paths": {
  "/PulseRateResURI" : {
  "get": {
    "description": "This resource describes the properties associated with a person's pulse rate. The unit, which is the default unit, is bpm. The PulseRate and unit Properties are read-only values that are provided by the server. When range (from oic.r.baseresource) is omitted the default is 0 to +MAXFLOAT. Retrieves pulse rate of an object.",
    "parameters": [
      {"$ref": "#/parameters/interface"}
    ],
    "responses": {
      "200": {
        "description": ",
        "x-example": {
          "rt": ["oic.r.pulserate"],
          "id": "unique_example_id",
          "pulserate": 80
        }
      },
      "schema": { "$ref": "#/definitions/PulseRate" }
    }
  }
  
  "parameters": { 
    "interface": {
      "in": "query",
      "name": "if",
      "type": "string",
      "enum": ["oic.if.s", "oic.if.baseline"]
    }
  },
"value":
  { 
    "anyOf": [
      { "type": "array" },
      { "type": "string" },
      { "type": "boolean" },
      { "type": "integer" },
      { "type": "number" },
      { "type": "object" }
    ],
    "description": "The value sensed or actuated by this Resource"
  },
  "n":
    { 
      "description": "Friendly name of the resource",
      "maxLength": 64,
      "readOnly": true,
      "type": "string"
    },
  "range":
    { 
      "description": "The valid range for the value Property",
      "items":
      { "anyOf": [
        { "type": "number" },
        { "type": "integer" }
      ] },
      "maxItems": 2,
      "minItems": 2,
      "readOnly": true,
      "type": "array"
    },
  "pulserate":
    { 
      "description": "Pulse rate in bpm.",
      "minimum": 0,
      "readOnly": true,
      "type": "integer"
    },
  "id":
    { 
      "description": "Instance ID of this specific resource",
      "maxLength": 64,
      "readOnly": true,
      "type": "string"
    },
  "if":
    { 
      "description": "The interface set supported by this resource"
B.97.5 Property Definition

Table 431 The properties definitions of the resource

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>precision</td>
<td>number</td>
<td>No</td>
<td>Read Only</td>
<td>Accuracy granularity of the exposed value</td>
</tr>
<tr>
<td>if</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>The interface set supported by this resource</td>
</tr>
<tr>
<td>step</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>Step value across the defined range</td>
</tr>
<tr>
<td>pulserate</td>
<td>integer</td>
<td>Yes</td>
<td>Read Only</td>
<td>Pulse rate in bpm.</td>
</tr>
<tr>
<td>value</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>Read Write</td>
<td>The value sensed or actuated by this Resource</td>
</tr>
<tr>
<td>id</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Instance ID of this specific resource</td>
</tr>
<tr>
<td>range</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>The valid range for the value Property</td>
</tr>
<tr>
<td>rt</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>Resource Type</td>
</tr>
<tr>
<td>n</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td></td>
</tr>
</tbody>
</table>
B.97.6 CRUDN behaviour

Table 432 The CRUDN operations of the resource

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/PulseRateResURI</td>
<td>get</td>
<td></td>
<td></td>
<td></td>
<td>observe</td>
</tr>
</tbody>
</table>

B.98 Ramp Time

B.98.1 Introduction

This resource that describes the Ramp Time of a dimming function. This specifies the actual speed of changing between 2 dimming values. Time is specified in milliseconds [ms]. When range (from oic.r.baseresource) is omitted the maximum value is 100 ms. The RampTime of 0ms indicates the minimal delay possible by the implementation.

B.98.2 Example URI

/RampTimeResURI

B.98.3 Resource Type

The resource type (rt) is defined as: ['oic.r.light.ramptime'].

B.98.4 Swagger2.0 Definition

```json
{
  "swagger": "2.0",
  "info": {
    "title": "Ramp Time",
    "version": "v1.1.0-20160519",
    "license": {
      "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
      "x-description": "Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:
        1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
        2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.
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    }
  },
  "schemes": ["http"],
  "consumes": ["application/json"],
  "produces": ["application/json"],
  "paths": {
   ="/RampTimeResURI" : {
      "get": {
        "description": "This resource that describes the Ramp Time of a dimming function. This specifies the actual speed of changing between 2 dimming values. Time is specified in milliseconds [ms]. When range (from oic.r.baseresource) is omitted the maximum value is 100 ms. The RampTime of 0ms indicates the minimal delay possible by the implementation.\nRetrieves the current RampTime.\n",
        "parameters": [
          {"$ref": "#/parameters/interface"}
        ],
        "responses": {
```
"200": {
  "description": "",
  "x-example": {
    "rt": ["oic.r.light.ramptime"],
    "id": "unique_example_id",
    "RampTime": 0,
    "range": [0,100]
  }
},
"schema": { "$ref": "#/definitions/RampTime" }
}

"post": {
  "description": "Sets the current RampTime.\n",
  "parameters": [
    {
      "$ref": "#/parameters/interface",
      "name": "body",
      "in": "body",
      "required": true,
      "schema": { "$ref": "#/definitions/RampTime" },
      "x-example": {
        "id": "unique_example_id",
        "rampTime": 50
      }
    }
  ],
  "responses": {
    "200": {
      "description": "",
      "x-example": {
        "id": "unique_example_id",
        "rampTime": 50
      }
    },
"403": {
  "description": "This response is generated by the OIC Server when the client
  sends:\n  An update with an out of range property value for rampTime.\n  The server responds with the
  current resource representation.\n",
  "x-example": {
    "id": "unique_example_id",
    "rampTime": 40
  }
},
"403": {
  "description": "This response is generated by the OIC Server when the client
  sends:\n  An update with an out of range property value for rampTime.\n  The server responds with the
  current resource representation.\n",
  "x-example": {
    "id": "unique_example_id",
    "rampTime": 40
  }
},
"parameters": {
  "interface": {
    "name": "if",
    "type": "string",
    "enum": ["oic.if.a", "oic.if.baseline"]
  }
},
"definitions": {
  "RampTime": {
    "properties": {
      "rt": {
        "description": "Resource Type",
        "x-example": ["oic.r.light.ramptime""]
      }
    }
  }
}
"items": {
  "maxLength": 64,
  "type": "string"
},
"minItems": 1,
"readOnly": true,
"type": "array"
},
"precision": {
  "description": "Accuracy granularity of the exposed value",
  "readOnly": true,
  "type": "number"
},
"value": {
  "anyOf": [
    {"type": "array"},
    {"type": "string"},
    {"type": "boolean"},
    {"type": "integer"},
    {"type": "number"},
    {"type": "object"}
  ],
  "description": "The value sensed or actuated by this Resource"
},
"n": {
  "description": "Friendly name of the resource",
  "maxLength": 64,
  "readOnly": true,
  "type": "string"
},
"range": {
  "description": "The valid range for the value Property",
  "items": [
    "anyOf": [
      {"type": "number"},
      {"type": "integer"
    }
  ],
  "maxItems": 2,
  "minItems": 2,
  "readOnly": true,
  "type": "array"
},
"rampTime": {
  "description": "Actual speed of changing between 2 dimming values",
}
"type": "integer",
"step": {
  "anyOf": [
    { "type": "integer" },
    { "type": "number" }
  ],
  "description": "Step value across the defined range",
  "readOnly": true,
},
"id": {
  "description": "Instance ID of this specific resource",
  "maxLength": 64,
  "readOnly": true,
  "type": "string",
},
"if": {
  "description": "The interface set supported by this resource",
  "items": {
    "enum": [
      "oic.if.baseline",
      "oic.if.ll",
      "oic.if.b",
      "oic.if.lb",
      "oic.if.rw",
      "oic.if.r",
      "oic.if.a",
      "oic.if.s"
    ],
    "type": "string"
  },
  "minItems": 1,
  "readOnly": true,
  "type": "array"
},
"if": {
  "type": "object",
  "required": ["rampTime"]
}

### B.98.5 Property Definition

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>value</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>Read Write</td>
<td>The value sensed or actuated by this Resource</td>
</tr>
<tr>
<td>step</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>Step value across the defined range</td>
</tr>
<tr>
<td>rampTime</td>
<td>integer</td>
<td>Yes</td>
<td>Read Write</td>
<td></td>
</tr>
</tbody>
</table>
### B.98.6 CRUDN behaviour

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/RampTimeResURI</td>
<td>get</td>
<td>post</td>
<td></td>
<td></td>
<td>observe</td>
</tr>
</tbody>
</table>

### B.99 Refrigeration

#### B.99.1 Introduction

This resource describes a refrigeration function.

The filter state is a read-only value providing the percentage lifetime remaining for the water filter.

RapidFreeze is a boolean that controls the rapid freeze capability if present.

RapidCool is a boolean that controls the rapid cool capability if present.

Defrost is a boolean that controls the defrost cycle if present.

At least one of the listed Properties shall be present in a Resource Instance.

#### B.99.2 Example URI

/RefrigerationResURI

#### B.99.3 Resource Type

The resource type (rt) is defined as: ['oic.r.refrigeration'].

#### B.99.4 Swagger2.0 Definition

```json
{
  "swagger": "2.0",
  "info": {
    "title": "Refrigeration",
    "version": "v1.1.0-20160519",
    "license": {
      "name": "Apache 2.0",
      "url": "http://www.apache.org/licenses/LICENSE-2.0"
    }
  }
}
```
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status can be provided in the response.

```json
"x-example": {
    "id": "unique_example_id",
    "rapidFreeze": true
}

"schema": { "$ref": "#/definitions/RefrigerationUpdate" }
```

```
"parameters": {
    "interface": {
        "in": "query",
        "name": "if",
        "type": "string",
        "enum": ["oic.if.a", "oic.if.baseline"]
    }
},

"definitions": {
    "Refrigeration": {
        "properties": {
            "rt": {
                "description": "Resource Type",
                "items": {
                    "maxLength": 64,
                    "type": "string"
                },
                "minItems": 1,
                "readOnly": true,
                "type": "array"
            },
            "rapidFreeze": {
                "description": "Indicates whether the unit has a rapid freeze capability active.",
                "type": "boolean"
            },
            "defrost": {
                "description": "Indicates whether a defrost cycle is currently active",
                "type": "boolean"
            },
            "precision": {
                "description": "Accuracy granularity of the exposed value",
                "readOnly": true,
                "type": "number"
            },
            "value": {
                "anyOf": [
                    { "type": "array" },
                    { "type": "string" },
                    { "type": "boolean" },
                    { "type": "integer" }
                ]
            }
        }
    }
}```
"type": "number",
},
  { "type": "object"
  },
  { "description": "The value sensed or actuated by this Resource"
  },
  "p" :
  { "description": "Friendly name of the resource",
    "maxLength": 64,
    "readOnly": true,
    "type": "string"
  },
  "filter" :
  { "description": "Percentage life time remaining for the water filter",
    "maximum": 100,
    "minimum": 0,
    "readOnly": true,
    "type": "integer"
  },
  "range" :
  { "description": "The valid range for the value Property",
    "items": {
      "anyOf": [
        { "type": "number" },
        { "type": "integer" }
      ]
    },
    "maxItems": 2,
    "minItems": 2,
    "readOnly": true,
    "type": "array"
  },
  "rapidCool" :
  { "description": "Indicates whether the unit has a rapid cool capability active",
    "type": "boolean"
  },
  "step" :
  { "anyOf": [
    { "type": "integer" },
    { "type": "number" }
  ],
    "description": "Step value across the defined range",
    "readOnly": true
  },
  "id" :
  { "description": "Instance ID of this specific resource",
    "maxLength": 64,
    "readOnly": true,
    "type": "string"
"if" : {
  "description": "The interface set supported by this resource",
  "items": [ 
    "enum": [ 
      "oic.if.baseline",
      "oic.if.ll",
      "oic.if.b",
      "oic.if.lb",
      "oic.if.rw",
      "oic.if.r",
      "oic.if.z",
      "oic.if.a",
      "oic.if.s"
    ],
    "type": "string"
  ],
  "minItems": 1,
  "readOnly": true,
  "type": "array"
},

"anyOf" : [
  { 
    "required": [ 
      "filter"
    ],
  },
  { 
    "required": [ 
      "rapidFreeze"
    ],
  },
  { 
    "required": [ 
      "rapidCool"
    ],
  },
  { 
    "required": [ 
      "defrost"
    ],
  }
],

"type": "object"

"RefrigerationUpdate" : {
  "properties": { 
    "rt" : {
      "description": "Resource Type",
      "items": { 
        "maxLength": 64,
        "type": "string"
      },
      "minItems": 1,
      "readOnly": true,
      "type": "array"
    },
    "rapidFreeze" : {
      "description": "Indicates whether the unit has a rapid freeze capability active.",
      "type": "boolean"
    },
  }
}
"defrost":
  {
    "description": "Indicates whether a defrost cycle is currently active",
    "type": "boolean"
  },
"precision":
  {
    "description": "Accuracy granularity of the exposed value",
    "readOnly": true,
    "type": "number"
  },
"value":
  {
    "anyOf": [
      {
        "type": "array"
      },
      {
        "type": "string"
      },
      {
        "type": "boolean"
      },
      {
        "type": "integer"
      },
      {
        "type": "number"
      },
      {
        "type": "object"
      }
    ],
    "description": "The value sensed or actuated by this Resource"
  },
"n":
  {
    "description": "Friendly name of the resource",
    "maxLength": 64,
    "readOnly": true,
    "type": "string"
  },
"range":
  {
    "description": "The valid range for the value Property",
    "items": [
      "anyOf": [
        {
          "type": "number"
        },
        {
          "type": "integer"
        }
      ]
    ],
    "maxItems": 2,
    "minItems": 2,
    "readOnly": true,
    "type": "array"
  },
"rapidCool":
  {
    "description": "Indicates whether the unit has a rapid cool capability active",
    "type": "boolean"
  },
"step": {
  "anyOf": [
    {
      "type": "integer"
    },
    {
      "type": "number"
    }],
  "description": "Step value across the defined range",
  "readOnly": true,
},
"id": {
  "description": "Instance ID of this specific resource",
  "maxLength": 64,
  "readOnly": true,
  "type": "string",
},
"if": {
  "description": "The interface set supported by this resource",
  "items": {
    "enum": [
      "oic.if.baseline",
      "oic.if.ll",
      "oic.if.b",
      "oic.if.lb",
      "oic.if.rw",
      "oic.if.r",
      "oic.if.a",
      "oic.if.s",
    ],
    "type": "string"
  },
  "minItems": 1,
  "readOnly": true,
  "type": "array"
}
"anyOf": [
  {
    "required": [
      "rapidFreeze"
    ]
  },
  {
    "required": [
      "rapidCool"
    ]
  },
  {
    "required": [
      "defrost"
    ]
  },
],
"type": "object"
### Table 435 The properties definitions of the resource

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>defrost</td>
<td>boolean</td>
<td>Yes</td>
<td>Read Write</td>
<td>Indicates whether a defrost cycle is currently active</td>
</tr>
<tr>
<td>id</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Instance ID of this specific resource</td>
</tr>
<tr>
<td>precision</td>
<td>number</td>
<td>No</td>
<td>Read Only</td>
<td>Accuracy granularity of the exposed value</td>
</tr>
<tr>
<td>n</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Friendly name of the resource</td>
</tr>
<tr>
<td>range</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>The valid range for the value Property</td>
</tr>
<tr>
<td>rt</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>Resource Type</td>
</tr>
<tr>
<td>rapidFreeze</td>
<td>boolean</td>
<td>No</td>
<td>Read Write</td>
<td>Indicates whether the unit has a rapid freeze capability active</td>
</tr>
<tr>
<td>step</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>Step value across the defined range</td>
</tr>
<tr>
<td>value</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>Read Write</td>
<td>The value sensed or actuated by this Resource</td>
</tr>
<tr>
<td>rapidCool</td>
<td>boolean</td>
<td>No</td>
<td>Read Write</td>
<td>Indicates whether the unit has a rapid cool capability active</td>
</tr>
<tr>
<td>if</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>The interface set supported by this resource</td>
</tr>
<tr>
<td>filter</td>
<td>integer</td>
<td>No</td>
<td>Read Only</td>
<td>Percentage life time remaining for the water filter</td>
</tr>
<tr>
<td>rapidCool</td>
<td>boolean</td>
<td>No</td>
<td>Read Write</td>
<td></td>
</tr>
<tr>
<td>Property</td>
<td>Type</td>
<td>Access</td>
<td>Description</td>
<td></td>
</tr>
<tr>
<td>----------------</td>
<td>-----------------------------</td>
<td>----------</td>
<td>-----------------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>value</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>Indicates whether the unit has a rapid cool capability active</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Read Write</td>
<td>The value sensed or actuated by this Resource</td>
<td></td>
</tr>
<tr>
<td>precision</td>
<td>number</td>
<td>No</td>
<td>Accuracy granularity of the exposed value</td>
<td></td>
</tr>
<tr>
<td>defrost</td>
<td>boolean</td>
<td>Yes</td>
<td>Indicates whether a defrost cycle is currently active</td>
<td></td>
</tr>
<tr>
<td>n</td>
<td>string</td>
<td>No</td>
<td>Friendly name of the resource</td>
<td></td>
</tr>
<tr>
<td>if</td>
<td>array: see schema</td>
<td>No</td>
<td>The interface set supported by this resource</td>
<td></td>
</tr>
<tr>
<td>range</td>
<td>array: see schema</td>
<td>No</td>
<td>The valid range for the value Property</td>
<td></td>
</tr>
<tr>
<td>rt</td>
<td>array: see schema</td>
<td>No</td>
<td>Resource Type</td>
<td></td>
</tr>
<tr>
<td>id</td>
<td>string</td>
<td>No</td>
<td>Instance ID of this specific resource</td>
<td></td>
</tr>
<tr>
<td>rapidFreeze</td>
<td>boolean</td>
<td>No</td>
<td>Indicates whether the unit has a rapid freeze capability active.</td>
<td></td>
</tr>
<tr>
<td>step</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>Step value across the defined range</td>
<td></td>
</tr>
</tbody>
</table>

### B.99.6 CRUDN behaviour

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/RefrigerationResURI</td>
<td>get</td>
<td>post</td>
<td></td>
<td></td>
<td>observe</td>
</tr>
</tbody>
</table>
B.100 Selectable Levels

B.100.1 Introduction

This Resource provides a set of device defined 'levels' that can be selected for an operation. For example where a humidifier has a discrete set that model different humidity levels that can be set.

availablelevels is an array of the levels that can be selected, these can be a number or an integer.

targetlevel is the level that has currently been selected and is written to in order to select a new level.

When retrieved the targetlevel provides the actual value that has been selected.

B.100.2 Example URI

/SelectableLevelsResURI

B.100.3 Resource Type

The resource type (rt) is defined as: ['oic.r.selectablelevels'].

B.100.4 Swagger2.0 Definition

```json
{
  "swagger": "2.0",
  "info": {
    "title": "Selectable Levels",
    "version": "v1.1.0-20160519",
    "license": {
      "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
      "x-description": "Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.

THIS SOFTWARE IS PROVIDED BY THE Open Connectivity Foundation, INC. "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR WARRANTIES OF NON-INFRINGEMENT, ARE DISCLAIMED.
IN NO EVENT SHALL THE Open Connectivity Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE."
    }
  },
  "schemes": ["http"],
  "consumes": ["application/json"],
  "produces": ["application/json"],
  "paths": {
    "/SelectableLevelsResURI" : {
      "get": {
        "description": "This Resource provides a set of device defined 'levels' that can be selected for an operation. For example where a humidifier has a discrete set that model different humidity levels that can be set. availablelevels is an array of the levels that can be selected, these can be a number or an integer. targetlevel is the level that has currently been selected and is written to in order to select a new level. When retrieved the targetlevel provides the actual value that has been selected. Retrieves the current selectable levels.",
        "parameters": [
          {"$ref": "#/parameters/interface"}
        ],
        "responses": {
          "200": {
            "description": "",
            "x-example": {
              "rt": ["oic.r.selectablelevels"],
              "id": "unique_example_id",
            }
          }
        }
      }
    }
  }
}
```
"availablelevels": [0, 2, 4, 6, 8],
"targetlevel": 2
}

"schema": { "$ref": "#/definitions/SelectableLevels" }
}

"post": {
"description": "Sets the current level from the set that is selectable",
"parameters": [
{ "$ref": "#/parameters/interface"},

{name": "body",
"in": "body",
"required": true,
"schema": { "$ref": "#/definitions/UpdateSchema" },
"x-example":
{
  "targetlevel": 4
}
],
"responses": {
"200": {
"description": "",
"x-example":
{
  "targetlevel": 4
}
},
"403": {
"description": "Generated by a Server when an attempt is made to update to a targetlevel that is not in the set of availablelevels",
"x-example":
{
  "id": "unique_example_id",
  "availablelevels": [0, 2, 4, 6, 8],
  "targetlevel": 2
}
},
"parameters": {
  "interface": {
    "in": "query",
    "name": "if",
    "type": "string",
    "enum": ["oic.if.a", "oic.if.baseline"]
  }
},
"definitions": {
  "SelectableLevels": {
    "properties": {
      "rt": {
        "description": "Resource Type",
        "items": {
          "maxLength": 64,
          "type": "string"
        },
        "minItems": 1,
        "readOnly": true,
        "type": "array"
      }
    }
  }
}
"precision" : 
{
  "description": "Accuracy granularity of the exposed value",
  "readOnly": true,
  "type": "number"
},

"value" : 
{
  "anyOf": [
    {
      "type": "array"
    },
    {
      "type": "string"
    },
    {
      "type": "boolean"
    },
    {
      "type": "integer"
    },
    {
      "type": "number"
    },
    {
      "type": "object"
    },
    {
      "type": "object"
    }
  ],
  "description": "The value sensed or actuated by this Resource"
},

"n" : 
{
  "description": "Friendly name of the resource",
  "maxLength": 64,
  "readOnly": true,
  "type": "string"
},

"targetlevel" : 
{
  "anyOf": [
    {
      "type": "integer"
    },
    {
      "type": "number"
    },
    {
      "type": "string"
    },
    {
      "type": "integer"
    },
    {
      "type": "number"
    },
    {
      "type": "object"
    }
  ],
  "description": "The target level from the available selectable set"
},

"range" : 
{
  "description": "The valid range for the value Property",
  "items": [
    "anyOf": [
      {
        "type": "number"
      },
      {
        "type": "integer"
      }
    ],
    "maxItems": 2,
    "minItems": 2,
    "readOnly": true,
    "type": "array"


```json
{
    "availablelevels": {
        "description": "Set of levels from which one can be selected",
        "items": [  
            "anyOf": [  
                { "type": "integer"  
                },  
                { "type": "number"  
                }  
            ]  
        },  
        "readOnly": true,
        "type": "array"
    },
    "step": {  
        "anyOf": [  
            { "type": "integer"  
            },  
            { "type": "number"  
            }  
        ],  
        "description": "Step value across the defined range",
        "readOnly": true
    },
    "id": {  
        "description": "Instance ID of this specific resource",
        "maxLength": 64,
        "readOnly": true,
        "type": "string"
    },
    "if": {  
        "description": "The interface set supported by this resource",
        "items": [  
            "enum": [  
                "oic.if.baseline",
                "oic.if.ll",
                "oic.if.lb",
                "oic.if.rw",
                "oic.if.r",
                "oic.if.a",
                "oic.if.s"
            ],  
            "type": "string"
        ],  
        "minItems": 1,
        "readOnly": true,
        "type": "array"
    }
}
```


"description": "Resource Type",
"items": {
    "maxLength": 64,
    "type": "string"
},
"minItems": 1,
"readOnly": true,
"type": "array"
},
"precision": {
    "description": "Accuracy granularity of the exposed value",
    "readOnly": true,
    "type": "number"
},
"value": {
    "anyOf": {
        "type": "array",
        "type": "string",
        "type": "boolean",
        "type": "integer",
        "type": "number",
        "type": "object"
    }
},
"n": {
    "description": "Friendly name of the resource",
    "maxLength": 64,
    "readOnly": true,
    "type": "string"
},
"targetlevel": {
    "description": "The target level from the available selectable set",
    "type": {
        "integer",
        "number"
    }
},
"range": {
    "description": "The valid range for the value Property",
    "items": {
        "anyOf": {
            "type": "number"
        }
    }
}
B.100.5 Property Definition

Table 437 The properties definitions of the resource

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>rt</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>Resource Type</td>
</tr>
<tr>
<td>range</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>The valid range for the value Property</td>
</tr>
<tr>
<td>id</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Property</td>
</tr>
<tr>
<td>Property</td>
<td>Type</td>
<td>Required</td>
<td>Access Mode</td>
<td>Description</td>
</tr>
<tr>
<td>-------------------</td>
<td>-----------------------------------------</td>
<td>----------</td>
<td>---------------</td>
<td>-----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>precision</td>
<td>number</td>
<td>No</td>
<td>Read Only</td>
<td>Instance ID of this specific resource</td>
</tr>
<tr>
<td>n</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Accuracy granularity of the exposed value</td>
</tr>
<tr>
<td>availablelevels</td>
<td>array: see schema</td>
<td>Yes</td>
<td>Read Only</td>
<td>Friendly name of the resource</td>
</tr>
<tr>
<td>value</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>Read Write</td>
<td>The value sensed or actuated by this Resource</td>
</tr>
<tr>
<td>step</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>Step value across the defined range</td>
</tr>
<tr>
<td>if</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>The interface set supported by this resource</td>
</tr>
<tr>
<td>targetlevel</td>
<td>multiple types: see schema</td>
<td>Yes</td>
<td>Read Write</td>
<td>The target level from the available selectable set</td>
</tr>
<tr>
<td>rt</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>Resource Type</td>
</tr>
<tr>
<td>range</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>The valid range for the value Property</td>
</tr>
<tr>
<td>id</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Instance ID of this specific resource</td>
</tr>
<tr>
<td>precision</td>
<td>number</td>
<td>No</td>
<td>Read Only</td>
<td>Accuracy granularity of the exposed value</td>
</tr>
<tr>
<td>n</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Friendly name of the resource</td>
</tr>
<tr>
<td>value</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>Read Write</td>
<td>The value sensed or actuated by this Resource</td>
</tr>
</tbody>
</table>
B.100.6 CRUDN behaviour

Table 438 The CRUDN operations of the resource

Resource | Create | Read | Update | Delete | Notify
--- | --- | --- | --- | --- | ---
/SelectableLevelsResURI | get | post | | | observe

B.101 Sensor Properties

B.101.1 Introduction

This resource describes the properties which guide the reporting of a state change of a Sensor. The silenttime represents the period after which a state change report was sent where the Sensor state change is not reported. The sensitivity represents the level at which the sensor detects a state change. These values are completely dependent on the type of Sensor and the manufacturer capability, so no range restrictions are used. The range from the baseresource is only applied to the sensitivity.

B.101.2 Example URI

/SensorPropsResURI

B.101.3 Resource Type

The resource type (rt) is defined as: ['oic.r.sensor.props'].

B.101.4 Swagger2.0 Definition

```json
{
  "swagger": "2.0",
  "info": {
    "title": "Sensor Properties",
    "version": "v1.1.0-20180115",
    "license": {
      "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
      "x-description": "Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:
1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.
THIS SOFTWARE IS PROVIDED BY THE Open Connectivity Foundation, INC. "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR WARRANTIES OF NON-INFRINGEMENT, ARE DISCLAIMED. IN NO EVENT SHALL The Open Connectivity Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE."
    }
  }
}
```
"schemes": ["http"],
"consumes": ["application/json"],
"produces": ["application/json"],
"paths": {
  "/SensorPropsResURI" : {
    "get": { 
      "description": "This resource describes the properties which guide the reporting of a state change of a Sensor. The silenttime represents the period after which a state change report was sent where the Sensor state change is not reported. The sensitivity represents the level at which the sensor detects a state change. These values are completely dependend on the type of Sensor and the manufacturer capability, so no range restrictions are used. The range from the baseresource is only applied to the sensitivity. Gets current Sensor Property values",
      "parameters": [
        {"$ref": "#/parameters/interface"}
      ],
      "responses": {
        "200": {
          "description": "",
          "x-example": {
            "rt": ["oic.r.sensor.props"],
            "id": "unique_example_id",
            "silenttime": 10,
            "sensitivity": 20.5,
            "Range": [0, 100]
          }
        }
      }
    }
  },
  "/SensorPropsSetURI" : {
    "post": { 
      "description": "Sets Sensor Property values",
      "parameters": [
        {"$ref": "#/parameters/interface"},
        {"name": "body",
        "in": "body",
        "required": true,
        "schema": { "$ref": "#/definitions/SensorProps" },
        "x-example": {
          "id": "unique_example_id",
          "silenttime": 20,
          "sensitivity": 10.75
        }
      ],
      "responses": {
        "200": {
          "description": "",
          "x-example": {
            "id": "unique_example_id",
            "silenttime": 20,
            "sensitivity": 10.75
          }
        }
      }
    }
  }
}
"parameters": {
  "interface" : {
    "in": "query",
    "name": "if",
    "type": "string",
    "enum": ["oic.if.rw", "oic.if.baseline"]
  }
}
"definitions": {
  "SensorProps": {
    "properties": {
      "rt": {
        "description": "Resource Type",
        "items": {
          "maxLength": 64,
          "type": "string"
        },
        "minItems": 1,
        "readOnly": true,
        "type": "array"
      },
      "silenttime": {
        "description": "The time in seconds from the previous report that the Sensor restrains from sending a state change. This is used to avoid repeated state change reports.",
        "type": "integer"
      },
      "sensitivity": {
        "description": "The level of the detection accuracy of the Sensor. This is used to control the level at which the Sensor detects a state change. Range should be specified per manufacturer device capabilities.",
        "type": "number"
      },
      "precision": {
        "description": "Accuracy granularity of the exposed value",
        "readOnly": true,
        "type": "number"
      },
      "value": {
        "anyOf": [
          { "type": "array" },
          { "type": "string" },
          { "type": "boolean" },
          { "type": "integer" },
          { "type": "number" },
          { "type": "object" }
        ],
        "description": "The value sensed or actuated by this Resource"
      },
      "n": {
        "description": "Friendly name of the resource",
        "maxLength": 64,
        "readOnly": true,
        "type": "string"
      }
    }
  }
}
"range":
{
  "description": "The valid range for the value Property",
  "items": [
    "anyOf": [
      {
        "type": "number"
      },
      {
        "type": "integer"
      }
    ],
    "maxItems": 2,
    "minItems": 2,
    "readOnly": true,
    "type": "array"
  ],
  "step":
  {
    "anyOf": [
      {
        "type": "integer"
      },
      {
        "type": "number"
      }
    ],
    "description": "Step value across the defined range",
    "readOnly": true
  },
  "id":
  {
    "description": "Instance ID of this specific resource",
    "maxLength": 64,
    "readOnly": true,
    "type": "string"
  },
  "if":
  {
    "description": "The interface set supported by this resource",
    "items": [
      "enum": [
        "oic.if.baseline",
        "oic.if.ll",
        "oic.if.lb",
        "oic.if.b", 
        "oic.if.ll",
        "oic.if.rw",
        "oic.if.r",
        "oic.if.a",
        "oic.if.s"
      ],
      "type": "string"
    ],
    "minItems": 1,
    "readOnly": true,
    "type": "array"
  }
}
### Table 439 The properties definitions of the resource

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>silenttime</td>
<td>integer</td>
<td>Yes</td>
<td>Read Write</td>
<td>The time in seconds from the previous report that the Sensor restrains from sending a state change. This is used to avoid repeated state change reports.</td>
</tr>
<tr>
<td>step</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>Step value across the defined range</td>
</tr>
<tr>
<td>n</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Friendly name of the resource</td>
</tr>
<tr>
<td>rt</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>Resource Type</td>
</tr>
<tr>
<td>id</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Instance ID of this specific resource</td>
</tr>
<tr>
<td>value</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>Read Write</td>
<td>The value sensed or actuated by this Resource</td>
</tr>
<tr>
<td>if</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>The interface set supported by this resource</td>
</tr>
<tr>
<td>precision</td>
<td>number</td>
<td>No</td>
<td>Read Only</td>
<td>Accuracy granularity of the exposed value</td>
</tr>
<tr>
<td>range</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>The valid range for the value Property</td>
</tr>
<tr>
<td>sensitivity</td>
<td>number</td>
<td>Yes</td>
<td>Read Write</td>
<td>The level of the detection accuracy of the Sensor. This is used to control the level at which the Sensor detects a state change. Range</td>
</tr>
</tbody>
</table>
Table 440 The CRUDN operations of the resource

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/SensorPropsResURI</td>
<td>get</td>
<td>post</td>
<td></td>
<td></td>
<td>observe</td>
</tr>
</tbody>
</table>

### B.102 Signal Strength

#### B.102.1 Introduction

This resource describes the strength of a signal by means of lqi and rssi. The lqi is a floating point number that represents Link Quality Indicator. The rssi is a floating point number that represents the received signal strength indicator.

#### B.102.2 Example URI

/SignalStrengthResURI

#### B.102.3 Resource Type

The resource type (rt) is defined as: ['oic.r.signalstrength'].

#### B.102.4 Swagger2.0 Definition

```json
{
   "swagger": "2.0",
   "info": {
      "title": "Signal Strength",
      "version": "v1.1.0-20160519",
      "license": {
         "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
         "x-description": "Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:
         1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
         2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.
         3. Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:
         1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
         2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.
         4. The name of the copyright holders must not be used to endorse or promote products derived from this software without specific prior written permission.
         5. THIS SOFTWARE IS PROVIDED BY THE Open Connectivity Foundation, INC. AND CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR USE ARE DISCLAIMED.
         IN NO EVENT SHALL THE Open Connectivity Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.""
   },
   "schemes": ["http"],
   "consumes": ["application/json"],
   "produces": ["application/json"],
   "paths": {
      "/SignalStrengthResURI": {
         "get": {
            "description": "This resource describes the strength of a signal by means of lqi and rssi. The lqi is a floating point number that represents Link Quality Indicator. The rssi is a floating point number that represents the received signal strength indicator.",
            "parameters": [
               {"$ref": "#/parameters/interface"}
            ],
            "responses": {
               "200": {
                  "description": "Successful response",
                  "schema": {
                     "type": "object",
                     "properties": {
                        "lqi": {
                           "type": "number",
                           "description": "Link Quality Indicator"
                        },
                        "rssi": {
                           "type": "number",
                           "description": "Received Signal Strength Indicator"
                        }
                     }
                  }
               }
            }
         }
      }
   }
}
```
"description": "",
"x-example":
{
  "rt": ["oic.r.signalstrength"],
  "id": "unique_example_id",
  "lqi": 10.0,
  "rssi": 55.0
}

"schema": { "$ref": "#/definitions/SignalStrength" }
}
}

"parameters": {
  "interface": {
    "in": "query",
    "name": "if",
    "type": "string",
    "enum": ["oic.if.s", "oic.if.baseline"]
  }
}

"definitions": {
  "SignalStrength": {
    "properties": {
      "rt": {
        "description": "Resource Type",
        "items": {
          "maxLength": 64,
          "type": "string"
        },
        "minItems": 1,
        "readOnly": true,
        "type": "array"
      },
      "precision": {
        "description": "Accuracy granularity of the exposed value",
        "readOnly": true,
        "type": "number"
      },
      "value": {
        "anyOf": [
          { "type": "array" },
          { "type": "string" },
          { "type": "boolean" },
          { "type": "integer" },
          { "type": "number" },
          { "type": "object" }
        ],
        "description": "The value sensed or actuated by this Resource"
      }
    }
  }
}


"description": "Friendly name of the resource",
"maxLength": 64,
"readOnly": true,
"type": "string"
},

"range": {
"description": "The valid range for the value Property",
"items": [
    "anyOf": [
        { "type": "number" },
        { "type": "integer" }
    ]
],
"maxItems": 2,
"minItems": 2,
"readOnly": true,
"type": "array"
},

"lqi": {
"description": "current value of Link Quality Indicator",
"readOnly": true,
"type": "number"
},

"step": {
"anyOf": [
    { "type": "integer" },
    { "type": "number" }
],
"description": "Step value across the defined range",
"readOnly": true
},

"rssi": {
"description": "current value of Received Signal Strength Indicator",
"readOnly": true,
"type": "number"
},

"id": {
"description": "Instance ID of this specific resource",
"maxLength": 64,
"readOnly": true,
"type": "string"
},

"if": {
"description": "The interface set supported by this resource",
"items": [
    "oic.if.baseline",
    "oic.if.ll",
    "oic.if.b",
    "oic.if.lb",
    "oic.if.lc",
    "oic.if.1.2",
    "oic.if.2.5",
    "oic.if.5.0"
],
"readOnly": true,
"type": "array"}
B.102.5 Property Definition

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>rssi</td>
<td>number</td>
<td>Yes</td>
<td>Read Only</td>
<td>current value of Received Signal Strength Indicator</td>
</tr>
<tr>
<td>precision</td>
<td>number</td>
<td>No</td>
<td>Read Only</td>
<td>Accuracy granularity of the exposed value</td>
</tr>
<tr>
<td>rt</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>Resource Type</td>
</tr>
<tr>
<td>id</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Instance ID of this specific resource</td>
</tr>
<tr>
<td>n</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Friendly name of the resource</td>
</tr>
<tr>
<td>if</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>The interface set supported by this resource</td>
</tr>
<tr>
<td>lqi</td>
<td>number</td>
<td>Yes</td>
<td>Read Only</td>
<td>current value of Link Quality Indicator</td>
</tr>
<tr>
<td>value</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>Read Write</td>
<td>The value sensed or actuated by this Resource</td>
</tr>
<tr>
<td>range</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>The valid range for the value Property</td>
</tr>
</tbody>
</table>
B.102.6 CRUDN behaviour

Table 442 The CRUDN operations of the resource

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/SignalStrengthResURI</td>
<td>get</td>
<td></td>
<td></td>
<td></td>
<td>observe</td>
</tr>
</tbody>
</table>

B.103 Sleep Sensor

B.103.1 Introduction

This resource describes whether human sleep has been sensed or not. The value is a boolean. A value of 'true' means that sleep has been sensed. A value of 'false' means that sleep not been sensed.

B.103.2 Example URI

/SleepSensorResURI

B.103.3 Resource Type

The resource type (rt) is defined as: ['oic.r.sensor.sleep'].

B.103.4 Swagger2.0 Definition

```json
{
    "swagger": "2.0",
    "info": {
        "title": "Sleep Sensor",
        "version": "v1.1.0-20160519",
        "license": {
            "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
            "x-description": "Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

            1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
            2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.

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        }
    },
    "schemes": ["http"],
    "consumes": ["application/json"],
    "produces": ["application/json"],
    "paths": {
        "/SleepSensorResURI": {
            "get": {
                "description": "This resource describes whether human sleep has been sensed or not. The value is a boolean. A value of 'true' means that sleep has been sensed. A value of 'false' means that sleep not been sensed."
            }
        }
    }
}
```
"description": "",
"x-example":
  { "rt": ["oic.r.sensor.sleep"],
    "id": "unique_example_id",
    "value": true
  },
  "schema": { "$ref": "#/definitions/sleep" }
};

"parameters": {
  "interface": {
    "in": "query",
    "name": "if",
    "type": "string",
    "enum": ["oic.if.s", "oic.if.baseline"]
  }
},

"definitions": {
  "sleep": {
    "properties": {
      "rt": {
        "description": "Resource Type",
        "items": {
          "maxLength": 64,
          "type": "string"
        },
        "minItems": 1,
        "readOnly": true,
        "type": "array"
      },
      "precision": {
        "description": "Accuracy granularity of the exposed value",
        "readOnly": true,
        "type": "number"
      },
      "value": {
        "description": "true = sensed, false = not sensed.",
        "readOnly": true,
        "type": "boolean"
      },
      "n": {
        "description": "Friendly name of the resource",
        "maxLength": 64,
        "readOnly": true,
        "type": "string"
      },
      "range": {
        "description": "The valid range for the value Property",
        "items": {
          "anyOf": [
            { "type": "number" },
            { "type": "integer"
          }
        ]
      }
    }
  }
}
B.103.5 Property Definition

Table 443 The properties definitions of the resource

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>precision</td>
<td>number</td>
<td>No</td>
<td>Read Only</td>
<td>Accuracy granularity of the exposed value</td>
</tr>
<tr>
<td>if</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td></td>
</tr>
</tbody>
</table>


### B.103.6 CRUDN behaviour

<table>
<thead>
<tr>
<th>Property</th>
<th>Type</th>
<th>Required</th>
<th>Read Only</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>n</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Friendly name of the resource</td>
</tr>
<tr>
<td>rt</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>Resource Type</td>
</tr>
<tr>
<td>value</td>
<td>boolean</td>
<td>Yes</td>
<td>Read Only</td>
<td>true = sensed, false = not sensed.</td>
</tr>
<tr>
<td>range</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>The valid range for the value Property</td>
</tr>
<tr>
<td>id</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Instance ID of this specific resource</td>
</tr>
<tr>
<td>step</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>Step value across the defined range</td>
</tr>
</tbody>
</table>

#### Table 444 The CRUDN operations of the resource

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/SleepSensorResURI</td>
<td>get</td>
<td></td>
<td></td>
<td></td>
<td>observe</td>
</tr>
</tbody>
</table>

### B.104 Smoke Sensor

#### B.104.1 Introduction

This resource describes whether smoke has been sensed or not. The value is a boolean. A value of 'true' means that smoke has been sensed. A value of 'false' means that smoke not been sensed.

#### B.104.2 Example URI

/SmokeSensorResURI

#### B.104.3 Resource Type

The resource type (rt) is defined as: ['oic.r.sensor.smoke'].

#### B.104.4 Swagger2.0 Definition

```json
{
    "swagger": "2.0",
    "info": { 
        "title": "Smoke Sensor",
        "version": "v1.1.0-20160519",
        "license": {
            "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
            "x-description": "Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:
            1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
            2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or
        }
    }
}
```
"schemes": ["http"],
"consumes": ["application/json"],
"produces": ["application/json"],
"paths": {
"/SmokeSensorResURI": {
"get": {
"description": "This resource describes whether smoke has been sensed or not.
The value is a boolean. A value of 'true' means that smoke has been sensed. A value of 'false' means that smoke not been sensed.",
"parameters": [
{"$ref": "/#/parameters/interface}"],
"responses": {
"200": {
"description": ",
"x-example":
{
"rt": ["oic.r.sensor.smoke"],
"id": "unique_example_id",
"value": true
}
},
"schema": {
"$ref": "/#/definitions/smoke" }
}
}
},
"parameters": {
"interface": {
"in": "query",
"name": "if",
"type": "string",
"enum": ["oic.if.s", "oic.if.baseline"]
}
},
"definitions": {
"smoke": {
"properties": {
"rt": {
"description": "Resource Type",
"items": {
"maxLength": 64,
"type": "string"
},
"minItems": 1,
"readOnly": true,
"type": "array"
},
"precision": {
"description": "Accuracy granularity of the exposed value",
"readOnly": true,
"type": "number"
},
"value": 
"true"
}}
"description": "true = sensed, false = not sensed.",
"readOnly": true,
"type": "boolean"
},

"n" :
{
    "description": "Friendly name of the resource",
    "maxLength": 64,
    "readOnly": true,
    "type": "string"
},

"range" :
{
    "description": "The valid range for the value Property",
    "items": {
        "anyOf": [
            {
                "type": "number"
            },
            {
                "type": "integer"
            }
        ]
    },
    "maxItems": 2,
    "minItems": 2,
    "readOnly": true,
    "type": "array"
},

"step" :
{
    "anyOf": [
        {
            "type": "integer"
        },
        {
            "type": "number"
        }
    ],
    "description": "Step value across the defined range",
    "readOnly": true
},

"id" :
{
    "description": "Instance ID of this specific resource",
    "maxLength": 64,
    "readOnly": true,
    "type": "string"
},

"if" :
{
    "description": "The interface set supported by this resource",
    "items": {
        "enum": [
            "oic.if.baseline",
            "oic.if.ll",
            "oic.if.b",
            "oic.if.lb",
            "oic.if.rw",
            "oic.if.z",
            "oic.if.a",
            "oic.if.s"
        ]
    },
    "type": "string"
}
B.104.5 Property Definition

Table 445 The properties definitions of the resource

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>rt</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>Resource Type</td>
</tr>
<tr>
<td>if</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>The interface set supported by this resource</td>
</tr>
<tr>
<td>id</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Instance ID of this specific resource</td>
</tr>
<tr>
<td>n</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Friendly name of the resource</td>
</tr>
<tr>
<td>step</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>Step value across the defined range</td>
</tr>
<tr>
<td>range</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>The valid range for the value Property</td>
</tr>
<tr>
<td>precision</td>
<td>number</td>
<td>No</td>
<td>Read Only</td>
<td>Accuracy granularity of the exposed value</td>
</tr>
<tr>
<td>value</td>
<td>boolean</td>
<td>Yes</td>
<td>Read Only</td>
<td>true = sensed, false = not sensed.</td>
</tr>
</tbody>
</table>

B.104.6 CRUDN behaviour

Table 446 The CRUDN operations of the resource

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/SmokeSensorResURI</td>
<td>get</td>
<td></td>
<td></td>
<td></td>
<td>observe</td>
</tr>
</tbody>
</table>

B.105 Speech Synthesis-TTS

B.105.1 Introduction

This resource may be created on the OIC Server that is capable of rendering speech by an OIC Client and allows the client to provide an SSML document with text to render or may be created on the OIC Server by some resident application.
The audio rendered is at this stage local to the Server (i.e. not streamed).

The utterance is an SSML document.

The supportedLanguages is an array of the RFC 5646 defined language tags that are supported.

The supportedVoices is an SSML document fragment indicating the voices that are supported.

Utterance in the example shall be a properly escaped (JSON rules) SSML document. An example is given below:

```
<?xml version="1.0" encoding="ISO-8859-1"?>

<speak version="1.1" xmlns="http://www.w3.org/2001/10/synthesis"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:schemaLocation="http://www.w3.org/2001/10/synthesis http://www.w3.org/TR/speech-synthesis11/synthesis.xsd"
xml:lang="en-US">

The title of the movie is:

"Monty Pythons The Meaning of Life"

which is directed by Terry Jones.

</speak>
```

B.105.2 Example URI

/SpeechTTSResURI

B.105.3 Resource Type

The resource type (rt) is defined as: ['oic.r.speech.tts'].

B.105.4 Swagger2.0 Definition

```json
{
    "swagger": "2.0",
    "info": {
        "title": "Speech Synthesis-TTS",
        "version": "v1.1.0-20160519",
        "license": {
            "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
            "x-description": "Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.

THIS SOFTWARE IS PROVIDED BY THE Open Connectivity Foundation, Inc. © 2016-18. All rights Reserved 910
```
Connectivity Foundation, INC. "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT 
LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR 
WARRANTIES OF NON-INFRINGEMENT, ARE DISCLAIMED. IN NO EVENT SHALL THE Open Connectivity 
Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, 
EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS 
OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND 
ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR 
OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY 
OF SUCH DAMAGE.

", "schemes": ["http"], 
"consumes": ["application/json"], 
"produces": ["application/json"], 
"paths": { 
"/SpeechTTSResURI": { 
"get": { 
"description": "This resource may be created on the OIC Server that is capable of rendering 
speech by an OIC Client and allows the client to provide an SML document with text to render
or may be created on the OIC Server by some resident application. The audio rendered is at this
stage local to the Server (i.e. not streamed). The utterance is an SML document. The
supportedLanguages is an array of the RFC 5646 defined language tags that are supported. The
supportedVoices is an SML document fragment indicating the voices that are supported. The utterance
in the example shall be a properly escaped (JSON rules) SML document. An example is given below:

<?xml version="1.0" encoding="ISO-8859-1"?>
<?xml version="1.0" encoding="UTF-8"?>
<root>
  <speak version="1.1" xmlns="http://www.w3.org/2001/10/synthesis"
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
    xsi:schemaLocation="http://www.w3.org/2001/10/synthesis
      http://www.w3.org/2001/XMLSchema-instance"
    xmlns:lang="en-US">
    The title of the movie is:
    "Monty Pythons The Meaning of Life" which
    is directed by Terry Jones.
  </speak">

"parameters": [
  { "$ref": "#/parameters/interface" }
], 
"responses": {
  "200": {
    "description": "", 
    "x-example": {
      "rt": ["oic.r.speech.tts"],
      "id": "unique_example_id",
      "utterance": "SSML Document",
      "supportedLanguages": ["en-US", "en-GB", "fr-CA"],
      "supportedVoices": "<voice gender="female" variant="2">
      <voice name="Mike"/>
      </voice>
    }
  }
}, 
"post": { 
"description": "Changes the utterance being rendered. Example shows a change in language
selected.", 
"parameters": [ 
  { "$ref": "#/parameters/interface" },
  { "name": "body", 
    "in": "body", 
    "required": true,
    "schema": { "$ref": "#/definitions/Speech" },
    "x-example": {
      "rt": ["oic.r.speech.tts"],
      "id": "unique_example_id",
      "utterance": "SSML Document"
    }
  }
}, 
"responses": { 
  "200": { 
    "description": "", 
    "x-example": {
      "rt": ["oic.r.speech.tts"],
      "id": "unique_example_id",
      "utterance": "SSML Document"
    }
  }
}}
"description" : ",
"x-example":
{
  "rt":         ["oic.r.speech.tts"],
  "id":         "unique_example_id",
  "utterance":  "SSML Document"
}
"schema": { "$ref": "/#definitions/Speech" }
})
"parameters": {
  "interface": {
    "in" : "query",
    "name" : "if",
    "type" : "string",
    "enum" : ["oic.if.a", "oic.if.baseline"]
  }
},
"definitions": {
  "Speech" : {
    "properties": {
      "rt" : {
        "description": "Resource Type",
        "items": {
          "maxLength": 64,
          "type": "string"
        },
        "minItems": 1,
        "readOnly": true,
        "type": "array"
      },
      "supportedLanguages" : {
        "description": "array of supported language tags",
        "items": {
          "type": "string"
        },
        "readOnly": true,
        "type": "array"
      },
      "precision" : {
        "description": "Accuracy granularity of the exposed value",
        "readOnly": true,
        "type": "number"
      },
      "value" : {
        "anyOf": [
          { "type": "array" },
          { "type": "string" },
          { "type": "boolean" },
          { "type": "integer" },
          { "type": "number" }]},
"type": "object",
"n": {
  "description": "Friendly name of the resource",
  "maxLength": 64,
  "readOnly": true,
  "type": "string"
},
"range": {
  "description": "The valid range for the value Property",
  "items": [
    "anyOf": [
      "type": "number",
      "type": "integer"
    ],
    "maxItems": 2,
    "minItems": 2,
    "readOnly": true,
    "type": "array"
  ],
  "supportedVoices": {
    "description": "SSML document fragment indicating supported voices",
    "readOnly": true,
    "type": "string"
  },
  "step": {
    "anyOf": [
      "type": "integer",
      "type": "number"
    ],
    "description": "Step value across the defined range",
    "readOnly": true
  },
  "utterance": {
    "description": "SSML document including the speech body",
    "type": "string"
  },
  "id": {
    "description": "Instance ID of this specific resource",
    "maxLength": 64,
    "readOnly": true,
    "type": "string"
  },
  "if": :}
"description": "The interface set supported by this resource",
"items": {
  "enum": [
    "oic.if.baseline",
    "oic.if.ll",
    "oic.if.b",
    "oic.if.lb",
    "oic.if.rw",
    "oic.if.r",
    "oic.if.a",
    "oic.if.s"
  ],
  "type": "string",
  "minItems": 1,
  "readOnly": true,
  "type": "array"
},
"type": "object",
"required": ["utterance"]

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>supportedVoices</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>SSML document fragment indicating supported voices</td>
</tr>
<tr>
<td>n</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Friendly name of the resource</td>
</tr>
<tr>
<td>rt</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>Resource Type</td>
</tr>
<tr>
<td>range</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>The valid range for the value Property</td>
</tr>
<tr>
<td>step</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>Step value across the defined range</td>
</tr>
<tr>
<td>supportedLanguages</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>array of supported language tags</td>
</tr>
<tr>
<td>value</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>Read Write</td>
<td>The value sensed or actuated by this Resource</td>
</tr>
<tr>
<td>precision</td>
<td>number</td>
<td>No</td>
<td>Read Only</td>
<td></td>
</tr>
</tbody>
</table>
B.105.6 CRUDN behaviour

Table 448 The CRUDN operations of the resource

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/SpeechTTSResURI</td>
<td>get</td>
<td>post</td>
<td></td>
<td></td>
<td>observe</td>
</tr>
</tbody>
</table>

B.106 Temperature

B.106.1 Introduction

This resource describes a sensed or actuated Temperature value.

The temperature describes the current value measured.

The units is a single value that is one of C, F or K.

It provides the unit of measurement for the temperature value.

It is a read-only value that is provided by the server.

If the units Property is missing the default is Celsius [C].

When range (from oic.r.baseresource) is omitted the default is +/- MAXINT.

Retrieves the current temperature value.

A client can specify the units for the requested temperature by use of a query parameter.

If no query parameter is provided the server provides its default measure or set value.

It is recommended to return always the units Property in the result.

B.106.2 Example URI

/TemperatureResURI

B.106.3 Resource Type

The resource type (rt) is defined as: ['oic.r.temperature'].

B.106.4 Swagger2.0 Definition

```json
{
   "swagger": "2.0",
   "info": {
      "title": "Temperature",
      "version": "v1.1.0-20160519",
      "license": {
         "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
         "x-description": "Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions are met:\n1. Redistributions of source code must retain the above copyright notice, this list of conditions and
the following disclaimer:\n2. Redistributions in binary form must reproduce the above
copyright notice, this list of conditions and the following disclaimer in the documentation and/or
other materials provided with the distribution.\n\nTHIS SOFTWARE IS PROVIDED BY THE Open
Connectivity Foundation, INC. \"AS IS\" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
```
"schemes": ["http"],
"consumes": ["application/json"],
"produces": ["application/json"],
"paths": {
  "/TemperatureResURI": {
    "get": {
      "description": "This resource describes a sensed or actuated Temperature value. The
      temperature describes the current value measured. The units is a single value that is one of C, F
      or K. It provides the unit of measurement for the temperature value. It is a read-only value that
      is provided by the server. If the units Property is missing the default is Celsius [C]. When
      range (from oic.r.baseresource) is omitted the default is +/- MAXINT. Retrieves the current
      temperature value. A client can specify the units for the requested temperature by use of a query
      parameter. In the result, It is recommended to return always the units Property in the result."
    },
    "parameters": [
      {"$ref": "#/parameters/interface"},
      {
        "in": "query",
        "description": "Units",
        "type": "string",
        "enum": ["C", "F", "K"],
        "name": "units"
      }
    ],
    "responses": {
      "200": {
        "description": "",
        "x-example": {
          "rt": ["oic.r.temperature"],
          "id": "unique_example_id",
          "temperature": 20.0,
          "units": "C",
          "range": [0.0, 100.0]
        }
      },
      "schema": { "$ref": "#/definitions/Temperature" }
    },
    "403": {
      "description": "This response is generated by the OIC Server when the client
      sends:
      A retrieve with q queryParameter indicating a unit that the server does not support. The
      server responds with the current resource representation including the units property illustrating
      the supported units and the error."
    },
    "schema": { "$ref": "#/definitions/Temperature" }
  }
},
"post": {
    "description": "Sets the desired temperature value. If a unit is included and the server
    does not support the unit indicated the request will fail. If the units are omitted value is taken
to be in C."
  },
  "parameters": [
    {"$ref": "#/parameters/interface"},
    
    "description": "This resource describes a sensed or actuated Temperature value. The
    temperature describes the current value measured. The units is a single value that is one of C, F
    or K. It provides the unit of measurement for the temperature value. It is a read-only value that
    is provided by the server. If the units Property is missing the default is Celsius [C]. When
    range (from oic.r.baseresource) is omitted the default is +/- MAXINT. Retrieves the current
    temperature value. A client can specify the units for the requested temperature by use of a query
    parameter. In the result, It is recommended to return always the units Property in the result."
    },
    "parameters": [
      {"$ref": "#/parameters/interface"},
      {
        "in": "query",
        "description": "Units",
        "type": "string",
        "enum": ["C", "F", "K"],
        "name": "units"
      }
    ],
    "responses": {
      "200": {
        "description": "",
        "x-example": {
          "rt": ["oic.r.temperature"],
          "id": "unique_example_id",
          "temperature": 20.0,
          "units": "C",
          "range": [0.0, 100.0]
        }
      },
      "schema": { "$ref": "#/definitions/Temperature" }
    },
    "403": {
      "description": "This response is generated by the OIC Server when the client
      sends:
      A retrieve with q queryParameter indicating a unit that the server does not support. The
      server responds with the current resource representation including the units property illustrating
      the supported units and the error."
    },
    "schema": { "$ref": "#/definitions/Temperature" }
  }
},
"post": {
    "description": "Sets the desired temperature value. If a unit is included and the server
    does not support the unit indicated the request will fail. If the units are omitted value is taken
to be in C."
  },
  "parameters": [
    {"$ref": "#/parameters/interface"},
    
    "description": "This resource describes a sensed or actuated Temperature value. The
    temperature describes the current value measured. The units is a single value that is one of C, F
    or K. It provides the unit of measurement for the temperature value. It is a read-only value that
    is provided by the server. If the units Property is missing the default is Celsius [C]. When
    range (from oic.r.baseresource) is omitted the default is +/- MAXINT. Retrieves the current
    temperature value. A client can specify the units for the requested temperature by use of a query
    parameter. In the result, It is recommended to return always the units Property in the result."
    },
    "parameters": [
      {"$ref": "#/parameters/interface"},
      {
        "in": "query",
        "description": "Units",
        "type": "string",
        "enum": ["C", "F", "K"],
        "name": "units"
      }
    ],
    "responses": {
      "200": {
        "description": "",
        "x-example": {
          "rt": ["oic.r.temperature"],
          "id": "unique_example_id",
          "temperature": 20.0,
          "units": "C",
          "range": [0.0, 100.0]
        }
      },
      "schema": { "$ref": "#/definitions/Temperature" }
    },
    "403": {
      "description": "This response is generated by the OIC Server when the client
      sends:
      A retrieve with q queryParameter indicating a unit that the server does not support. The
      server responds with the current resource representation including the units property illustrating
      the supported units and the error."
    },
    "schema": { "$ref": "#/definitions/Temperature" }
  }
},
"post": {
    "description": "Sets the desired temperature value. If a unit is included and the server
    does not support the unit indicated the request will fail. If the units are omitted value is taken
to be in C."
  },
  "parameters": [
    {"$ref": "#/parameters/interface"},
    
    "description": "This resource describes a sensed or actuated Temperature value. The
    temperature describes the current value measured. The units is a single value that is one of C, F
    or K. It provides the unit of measurement for the temperature value. It is a read-only value that
    is provided by the server. If the units Property is missing the default is Celsius [C]. When
    range (from oic.r.baseresource) is omitted the default is +/- MAXINT. Retrieves the current
    temperature value. A client can specify the units for the requested temperature by use of a query
    parameter. In the result, It is recommended to return always the units Property in the result."
    },
    "parameters": [
      {"$ref": "#/parameters/interface"},
      {
        "in": "query",
        "description": "Units",
        "type": "string",
        "enum": ["C", "F", "K"],
        "name": "units"
      }
    ],
    "responses": {
      "200": {
        "description": "",
        "x-example": {
          "rt": ["oic.r.temperature"],
          "id": "unique_example_id",
          "temperature": 20.0,
          "units": "C",
          "range": [0.0, 100.0]
        }
      },
      "schema": { "$ref": "#/definitions/Temperature" }
    },
    "403": {
      "description": "This response is generated by the OIC Server when the client
      sends:
      A retrieve with q queryParameter indicating a unit that the server does not support. The
      server responds with the current resource representation including the units property illustrating
      the supported units and the error."
    },
    "schema": { "$ref": "#/definitions/Temperature" }
  }
}
"name": "body",
"in": "body",
"required": true,
"schema": { 
  "$ref": "#/definitions/Temperature" },
"x-example": {
  "id": "unique_example_id",
  "temperature": 18.0
}

"responses": {
  "200": {
    "description": "",
    "x-example": {
      "id": "unique_example_id",
      "temperature": 18.0
    }
  },
  "403": {
    "description": "This response is generated by the OIC Server when the client sends:
An update with an out of range property value for temperature.
An update with an unsupported unit for this server.
The server responds with the current resource representation including the range property illustrating the supported range and the error.",
    "x-example": {
      "id": "unique_example_id",
      "temperature": 20.0,
      "units": "C",
      "range": [0.0,100.0]
    }
  }
},

"parameters": {
  "interface": {
    "in": "query",
    "name": "if",
    "type": "string",
    "enum": ["oic.if.a", "oic.if.s", "oic.if.baseline"]
  }
}

"definitions": {
  "Temperature": {
    "properties": {
      "rt": {
        "description": "Resource Type",
        "items": {
          "maxLength": 64,
          "type": "string"
        },
        "minItems": 1,
        "readOnly": true,
        "type": "array"
      },
      "temperature": {
        "description": "Current temperature setting or measurement",
        "type": "number"
      },
      "precision":
    }
  }
}
"description": "Accuracy granularity of the exposed value",
"readOnly": true,
"type": "number"
},
"
"value": {
  "anyOf": [
    { "type": "array"
    },
    { "type": "string"
    },
    { "type": "boolean"
    },
    { "type": "integer"
    },
    { "type": "number"
    },
    { "type": "object"
    }
  ],
  "description": "The value sensed or actuated by this Resource"
},
"
"n": {
  "description": "Friendly name of the resource",
  "maxLength": 64,
  "readOnly": true,
  "type": "string"
},
"
"units": {
  "description": "Units for the temperature value",
  "enum": ["C", "F", "K"
          ],
  "readOnly": true,
  "type": "string"
},
"
"range": {
  "description": "The valid range for the value Property",
  "items": {
    "anyOf": [
      { "type": "number"
      },
      { "type": "integer"
      }
    ]
  },
  "maxItems": 2,
  "minItems": 2,
  "readOnly": true,
  "type": "array"
},
"
"step": 
B.106.5 Property Definition

Table 449 The properties definitions of the resource

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>range</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>The valid range for the value Property</td>
</tr>
<tr>
<td>n</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Friendly name of the resource</td>
</tr>
<tr>
<td>id</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Instance ID of this specific resource</td>
</tr>
<tr>
<td>rt</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>Resource Type</td>
</tr>
<tr>
<td>Field</td>
<td>Type</td>
<td>Access</td>
<td>Description</td>
<td></td>
</tr>
<tr>
<td>------------</td>
<td>-----------------------</td>
<td>---------</td>
<td>-----------------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>units</td>
<td>string</td>
<td>No</td>
<td>Units for the temperature value</td>
<td></td>
</tr>
<tr>
<td>step</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>Step value across the defined range</td>
<td></td>
</tr>
<tr>
<td>value</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>The value sensed or actuated by this Resource</td>
<td></td>
</tr>
<tr>
<td>if</td>
<td>array: see schema</td>
<td>No</td>
<td>The interface set supported by this resource</td>
<td></td>
</tr>
<tr>
<td>temperature</td>
<td>number</td>
<td>Yes</td>
<td>Current temperature setting or measurement</td>
<td></td>
</tr>
<tr>
<td>precision</td>
<td>number</td>
<td>No</td>
<td>Accuracy granularity of the exposed value</td>
<td></td>
</tr>
</tbody>
</table>

**Table 450 The CRUDN operations of the resource**

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/TemperatureResURI</td>
<td>get</td>
<td>post</td>
<td></td>
<td></td>
<td>observe</td>
</tr>
</tbody>
</table>

### B.107 Three Axis Sensor

#### B.107.1 Introduction

This resource provides a representation of the measurement from a three-axis sensor. The orientation is an array of numbers representing x-plane, y-plane and z-plane values. The unit of measurement for each pane is 'g'.

#### B.107.2 Example URI

/ThreeAxisResURI

#### B.107.3 Resource Type

The resource type (rt) is defined as: ['oic.r.sensor.threeaxis'].

#### B.107.4 Swagger2.0 Definition

```json
{
    "swagger": "2.0",
    "info": {
        "title": "Three Axis Sensor",
        "version": "v1.1.0-20160519",
        "license": {
            "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved."
        }
    }"x-description": "Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:
1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above
```
"schemes": ["http"],
"consumes": ["application/json"],
"produces": ["application/json"],
"paths": {
  "/ThreeAxisResURI" : {
    "get": {
      "description": "This resource provides a representation of the measurement from a three-axis sensor. The orientation is an array of numbers representing x-plane, y-plane and z-plane values. The unit of measurement for each pane is 'g'.",
      "parameters": [],
      "responses": {
        "200": {
          "description": "",
          "x-example": {
            "rt": ["oic.r.sensor.threeaxis"],
            "id": "unique_example_id",
            "orientation": [0.7, 1.1, -0.2]
          }
        }
      }
    }
  }
}
"minItems": 3,
  "readOnly": true,
  "type": "array"
],

"precision":
  {
    "description": "Accuracy granularity of the exposed value",
    "readOnly": true,
    "type": "number"
  },

"value":
  {
    "anyOf": [
      {
        "type": "array"
      },
      {
        "type": "string"
      },
      {
        "type": "boolean"
      },
      {
        "type": "integer"
      },
      {
        "type": "number"
      },
      {
        "type": "object"
      }
    ],
    "description": "The value sensed or actuated by this Resource"
  },

"n":
  {
    "description": "Friendly name of the resource",
    "maxLength": 64,
    "readOnly": true,
    "type": "string"
  },

"range":
  {
    "description": "The valid range for the value Property",
    "items": [
      {
        "anyOf": [
          {
            "type": "number"
          }
        ],
        "maxItems": 2,
        "minItems": 2,
        "readOnly": true,
        "type": "array"
      }
    ],
    "step":
      {
        "anyOf": [
          {
            "type": "integer"
          }
        ]
      }
  }
B.107.5 Property Definition

Table 451 The properties definitions of the resource

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>n</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Friendly name of the resource</td>
</tr>
<tr>
<td>range</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>The valid range for the value Property</td>
</tr>
<tr>
<td>rt</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>Resource Type</td>
</tr>
<tr>
<td>step</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>Step value across the defined range</td>
</tr>
<tr>
<td>orientation</td>
<td>array: see schema</td>
<td>Yes</td>
<td>Read Only</td>
<td>Array containing x-plane, y-plane and z-plane orientation in 'g'.</td>
</tr>
</tbody>
</table>


### B.107.6 CRUDN behaviour

<table>
<thead>
<tr>
<th>id</th>
<th>string</th>
<th>No</th>
<th>Read Only</th>
<th>Instance ID of this specific resource</th>
</tr>
</thead>
<tbody>
<tr>
<td>if</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>The interface set supported by this resource</td>
</tr>
<tr>
<td>value</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>Read Write</td>
<td>The value sensed or actuated by this Resource</td>
</tr>
<tr>
<td>precision</td>
<td>number</td>
<td>No</td>
<td>Read Only</td>
<td>Accuracy granularity of the exposed value</td>
</tr>
</tbody>
</table>

### B.108 Time Period

#### B.108.1 Introduction

This resource describes the time period over which any additionally provided information is derived or bounded. The startTime and stopTime are ISO8601 encoded strings. startTime must be present. The interval is the interval of the time period in minutes, if present this value must be no less than 1 minute. startTime and interval are mutually exclusive; both Properties cannot be present in a Resource instance. Defines a time period for information retrieval, action or other behaviour.

#### B.108.2 Example URI

/TimePeriodResURI

#### B.108.3 Resource Type

The resource type (rt) is defined as: ['oic.r.time.period'].

#### B.108.4 Swagger2.0 Definition

```json
{
  "swagger": "2.0",
  "info": {
    "title": "Time Period",
    "version": "v1.1.0-20160519",
    "license": {
      "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
      "x-description": "Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:
1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.
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```
"schemes": ["http"],
"consumes": ["application/json"],
"produces": ["application/json"],
"paths": {
  "/TimePeriodResURI": {
    "get": {
      "description": "This resource describes the time period over which any additionally
provided information is derived or bounded. The startTime and stopTime are ISO8601 encoded
strings. startTime must be present. The interval is the interval of the time period in minutes,
if present this value must be no less than 1 minute. startTtime and interval are mutually exclusive;
both Properties cannot be present in a Resource instance. Defines a time period for information
retrieval, action or other behaviour.",
      "parameters": ["$ref": "/#/parameters/interface"],
      "responses": {
        "200": {
          "description": "",
          "x-example": {
            "rt": ["oic.r.time.period"],
            "id": "unique_example_id",
            "startTime": "2015-01-09T14:30Z",
            "stopTime": "2015-01-09T14:45Z"
          }
        }
      }
    },
    "post": {
      "description": "Sets or updates a time period for information retrieval, action or other
behavior.",
      "parameters": ["$ref": "/#/parameters/interface"],
      "responses": {
        "200": {
          "description": "",
          "x-example": {
            "id": "unique_example_id",
            "startTime": "2015-01-09T14:30Z",
            "stopTime": "2015-01-09T14:45Z"
          }
        }
      }
    }
  }
}
"parameters": {
  "interface": {
    "in": "query",
    "name": "if",
    "type": "string",
    "enum": ["oic.if.a", "oic.if.baseline"]
  }
},
"definitions": {
  "TimePeriod": {
    "properties": {
      "rt": {
        "description": "Resource Type",
        "items": {
          "maxLength": 64,
          "type": "string"
        },
        "minItems": 1,
        "readOnly": true,
        "type": "array"
      },
      "interval": {
        "description": "Time interval in minutes after the startTime, if present stopTime cannot be present",
        "type": "integer"
      },
      "precision": {
        "description": "Accuracy granularity of the exposed value",
        "readOnly": true,
        "type": "number"
      },
      "value": {
        "anyOf": [
          { "type": "array" },
          { "type": "string" },
          { "type": "boolean" },
          { "type": "integer" },
          { "type": "number" },
          { "type": "object" }
        ],
        "description": "The value sensed or actuated by this Resource"
      },
      "n": {
        "description": "Friendly name of the resource",
        "maxLength": 64,
        "readOnly": true,
        "type": "string"
      }
    }
  }
}
"range": {
    "description": "The valid range for the value Property",
    "items": {
        "anyOf": [
            {
                "type": "number"
            },
            {
                "type": "integer"
            }
        ],
        "maxItems": 2,
        "minItems": 2,
        "readOnly": true,
        "type": "array"
    }
},

"stopTime": {
    "description": "Stop time for the time period, if present interval cannot be present",
    "type": "string"
},

"startTime": {
    "description": "Start time for the time period",
    "type": "string"
},

"step": {
    "anyOf": [
        {
            "type": "integer"
        },
        {
            "type": "number"
        }
    ],
    "description": "Step value across the defined range",
    "readOnly": true
},

"id": {
    "description": "Instance ID of this specific resource",
    "maxLength": 64,
    "readOnly": true,
    "type": "string"
},

"if": {
    "description": "The interface set supported by this resource",
    "items": {
        "enum": [
            "oic.if.baseline",
            "oic.if.ll",
            "oic.if.b",
            "oic.if.lb",
            "oic.if.rw",
            "oic.if.r",
            "oic.if.a",
            "oic.if.s"
        ],
        "type": "string"
    },
    "minItems": 1,
    "readOnly": true,
### B.108.5 Property Definition

Table 453: The properties definitions of the resource

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>precision</td>
<td>number</td>
<td></td>
<td>Read Only</td>
<td>Accuracy granularity of the exposed value</td>
</tr>
<tr>
<td>value</td>
<td>multiple types: see schema</td>
<td></td>
<td>Read Write</td>
<td>The value sensed or actuated by this Resource</td>
</tr>
<tr>
<td>step</td>
<td>multiple types: see schema</td>
<td></td>
<td>Read Only</td>
<td>Step value across the defined range</td>
</tr>
<tr>
<td>stopTime</td>
<td>string</td>
<td></td>
<td>Read Write</td>
<td>Stop time for the time period, if present interval cannot be present</td>
</tr>
<tr>
<td>startTime</td>
<td>string</td>
<td></td>
<td>Read Write</td>
<td>Start time for the time period</td>
</tr>
<tr>
<td>rt</td>
<td>array: see schema</td>
<td></td>
<td>Read Only</td>
<td>Resource Type</td>
</tr>
<tr>
<td>id</td>
<td>string</td>
<td></td>
<td>Read Only</td>
<td>Instance ID of this specific resource</td>
</tr>
<tr>
<td>n</td>
<td>string</td>
<td></td>
<td>Read Only</td>
<td>Friendly name of the resource</td>
</tr>
<tr>
<td>range</td>
<td>array: see schema</td>
<td></td>
<td>Read Only</td>
<td>The valid range for the value Property</td>
</tr>
<tr>
<td>interval</td>
<td>integer</td>
<td></td>
<td>Read Write</td>
<td>Time interval in minutes after the startTime, if present stopTime cannot be present</td>
</tr>
<tr>
<td>if</td>
<td>array: see schema</td>
<td></td>
<td>Read Only</td>
<td></td>
</tr>
</tbody>
</table>
B.108.6 CRUDN behaviour

Table 454 The CRUDN operations of the resource

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/TimePeriodResURI</td>
<td>get</td>
<td>post</td>
<td>observe</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

B.109 Time Stamp

B.109.1 Introduction

This resource describes the properties associated with a timestamp. TimeStamp is a string that captures the timestamp using the RFC3339 datetime format (e.g: 2007-04-05T14:30Z) (Time+Date+Timezone). Retrieves the current timestamp data.

B.109.2 Example URI

/TimeStampResURI

B.109.3 Resource Type

The resource type (rt) is defined as: ['oic.r.time.stamp'].

B.109.4 Swagger2.0 Definition

```json
{
  "swagger": "2.0",
  "info": {
    "title": "Time Stamp",
    "version": "v1.1.0-20170830",
    "license": {
      "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
      "x-description": "Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:
        1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
        2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.
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    }
  },
  "schemes": ["http"],
  "consumes": ["application/json"],
  "produces": ["application/json"],
  "paths": {
    "/TimeStampResURI": {
      "get": {
        "description": "This resource describes the properties associated with a timestamp. TimeStamp is a string that captures the timestamp using the RFC3339 datetime format (e.g: 2007-04-05T14:30Z) (Time+Date+Timezone)\nRetrieves the current timestamp data."
      }
    }
  }
}
```
"x-example":
    {
        "rt": ["oic.r.time.stamp"],
        "id": "unique_example_id",
        "timestamp": "2015-11-05T14:30Z"
    }

    "schema": { "$ref": "#/definitions/TimeStamp" }
"type": "object"

},

description": "The value sensed or actuated by this Resource"

},

"n" : {

description": "Friendly name of the resource",

"maxLength": 64,

"readOnly": true,

"type": "string"

},

"range" : {

description": "The valid range for the value Property",

"items": {

"anyOf": [

{ "type": "number"

},

{ "type": "integer"

}

],

"maxItems": 2,

"minItems": 2,

"readOnly": true,

"type": "array"

},

"step" : {

"anyOf": [

{ "type": "integer"

},

{ "type": "number"

}

],

description": "Step value across the defined range",

"readOnly": true

},

"id" : {

"description": "Instance ID of this specific resource",

"maxLength": 64,

"readOnly": true,

"type": "string"

},

"if" : {

"description": "The interface set supported by this resource",

"items": {

"enum": [

"oic.if.baseline",

"oic.if.ll",

"oic.if.b",

"oic.if.lb",

"oic.if.rw",

"oic.if.z",

"oic.if.s"

],

"type": "string"

}
Table 455 The properties definitions of the resource

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>id</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Instance ID of this specific resource</td>
</tr>
<tr>
<td>step</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>Step value across the defined range</td>
</tr>
<tr>
<td>timestamp</td>
<td>string</td>
<td>Yes</td>
<td>Read Only</td>
<td>An RFC3339 formatted time indicating when the data was observed (e.g.: 2016-02-15T09:19Z, 1996-12-19T16:39:57-08:00)</td>
</tr>
<tr>
<td>value</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>Read Write</td>
<td>The value sensed or actuated by this Resource</td>
</tr>
<tr>
<td>n</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Friendly name of the resource</td>
</tr>
<tr>
<td>range</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>The valid range for the value Property</td>
</tr>
<tr>
<td>if</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>The interface set supported by this resource</td>
</tr>
<tr>
<td>rt</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>Resource Type</td>
</tr>
<tr>
<td>precision</td>
<td>number</td>
<td>No</td>
<td>Read Only</td>
<td>Accuracy granularity of the exposed value</td>
</tr>
</tbody>
</table>
B.109.6 CRUDN behaviour

Table 456 The CRUDN operations of the resource

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/TimeStampResURI</td>
<td></td>
<td>get</td>
<td></td>
<td></td>
<td>observe</td>
</tr>
</tbody>
</table>

B.110 Touch Sensor

B.110.1 Introduction

This resource describes whether touch has been sensed or not. The value is a boolean.
A value of 'true' means that touch has been sensed.
A value of 'false' means that touch not been sensed.

B.110.2 Example URI

/TouchResURI

B.110.3 Resource Type

The resource type (rt) is defined as: ['oic.r.sensor.touch'].

B.110.4 Swagger2.0 Definition

```json
{
  "swagger": "2.0",
  "info": {
    "title": "Touch Sensor",
    "version": "v1.1.0-20160519",
    "license": {
      "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
      "x-description": "Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

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2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.

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    }
  },
  "schemes": ["http"],
  "consumes": ["application/json"],
  "produces": ["application/json"],
  "paths": {
    "/TouchResURI" : {
      "get": {
        "description": "This resource describes whether touch has been sensed or not. The value is a boolean. A value of 'true' means that touch has been sensed. A value of 'false' means that touch not been sensed."
      }
    }
  },
  "parameters": [],
  "responses": {
    "200": {
      "description": ",",
      "x-example": {
        "rt": ["oic.r.sensor.touch"],
        "id": "unique_example_id",
        "value": true
      }
    }
  }
}
```
"schema": { "$ref": "#/definitions/Touch" }
"parameters": {
  "interface": {
    "in": "query",
    "name": "if",
    "type": "string",
    "enum": ["oic.if.s", "oic.if.baseline"]
  }
},
"definitions": {
  "Touch": {
    "properties": {
      "rt": {
        "description": "Resource Type",
        "items": {
          "maxLength": 64,
          "type": "string"
        },
        "minItems": 1,
        "readOnly": true,
        "type": "array"
      },
      "precision": {
        "description": "Accuracy granularity of the exposed value",
        "readOnly": true,
        "type": "number"
      },
      "value": {
        "description": "true = sensed, false = not sensed.",
        "readOnly": true,
        "type": "boolean"
      },
      "n": {
        "description": "Friendly name of the resource",
        "maxLength": 64,
        "readOnly": true,
        "type": "string"
      },
      "range": {
        "description": "The valid range for the value Property",
        "items": {
          "anyOf": [ {
            "type": "number"
          },
          { "type": "integer" }
        ],
        "maxItems": 2,
        "minItems": 2,
        "readOnly": true,
        "type": "array"
      }
    }
  }
}
B.110.5 Property Definition

Table 457 The properties definitions of the resource

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>n</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Friendly name of the resource</td>
</tr>
<tr>
<td>value</td>
<td>boolean</td>
<td>Yes</td>
<td>Read Only</td>
<td>true = sensed, false = not sensed.</td>
</tr>
<tr>
<td>id</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Instance ID of this specific resource</td>
</tr>
</tbody>
</table>
B.110.6 CRUDN behaviour

<table>
<thead>
<tr>
<th>Step</th>
<th>multiple types:</th>
<th>No</th>
<th>Read Only</th>
<th>Step value across the defined range</th>
</tr>
</thead>
<tbody>
<tr>
<td>precision</td>
<td>number</td>
<td>No</td>
<td>Read Only</td>
<td>Accuracy granularity of the exposed value</td>
</tr>
<tr>
<td>rt</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>Resource Type</td>
</tr>
<tr>
<td>range</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>The valid range for the value Property</td>
</tr>
<tr>
<td>if</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>The interface set supported by this resource</td>
</tr>
</tbody>
</table>

Table 458 The CRUDN operations of the resource

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/TouchResURI</td>
<td>get</td>
<td></td>
<td></td>
<td></td>
<td>observe</td>
</tr>
</tbody>
</table>

B.111 User ID

B.111.1 Introduction

This resource describes the properties associated with user ID of an OCF client.
The userid Property is a single value whose type is one of string, number or integer.
The userid Property is a read-only value that is provided by the server.
Retrieves User ID of an object.

B.111.2 Example URI

/UserIdResURI

B.111.3 Resource Type

The resource type (rt) is defined as: ['oic.r.userid'].

B.111.4 Swagger2.0 Definition

```json
{
  "swagger": "2.0",
  "info": {
    "title": "User ID",
    "version": "v1.1.0-20160519",
    "license": {
      "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
      "x-description": "Redistribution and use in source and binary forms, with or without
      modification, are permitted provided that the following conditions are met:\n      1. Redistributions of source code must retain the above copyright notice, this list of conditions and
      the following disclaimer.\n      2. Redistributions in binary form must reproduce the above
      copyright notice, this list of conditions and the following disclaimer in the documentation and/or
      other materials provided with the distribution.\n      THIS SOFTWARE IS PROVIDED BY THE Open Connectivity Foundation, INC. AS IS AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
      LIMTED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR
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      EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS
      OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND
      ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR
      "x-url": "http://example.org/")
```
"schemes": ["http"],
"consumes": ["application/json"],
"produces": ["application/json"],
"paths": {
"/UserIDResURI" : {
"get": {
"description": "This resource describes the properties associated with user ID of an OCF
client.\nThe userid Property is a single value whose type is one of string, number or integer.\nThe
userid Property is a read-only value that is provided by the server.\nRetrieves User ID of an
object.\n",
"parameters": [ {
"$ref": "/parameters/interface"}
],
"responses": {
"200": {
"x-example": {
"rt": ["oic.r.userid"],
"id": "unique_example_id",
"userid": "USER1"
}
},
"schema": { "$ref": "/definitions/UserID" }
}
}
}
"parameters": {
"interface" : {
"in": "query",
"name": "if",
"type": "string",
"enum": ["oic.if.s", "oic.if.baseline"]
}
}
"definitions": {
"UserID" : {
"properties": {
"rt": {
"description": "Resource Type",
"items": { 
"maxLength": 64,
"type": "string"
}
},
"minItems": 1,
"readOnly": true,
"type": "array"
}
},
"userid": {
"description": "ID of a patient/user of healthcare devices",
"readOnly": true,
"type": "string"
}
"precision": {
"description": "Accuracy granularity of the exposed value",
"readOnly": true,
"type": "number"
}
"value":

"anyOf": [
    {
      "type": "array"
    },
    {
      "type": "string"
    },
    {
      "type": "boolean"
    },
    {
      "type": "integer"
    },
    {
      "type": "number"
    },
    {
      "type": "object"
    }
],
"description": "The value sensed or actuated by this Resource"
},

"n": {
    "description": "Friendly name of the resource",
    "maxLength": 64,
    "readOnly": true,
    "type": "string"
},

"range": {
    "description": "The valid range for the value Property",
    "items": [
      "anyOf": [
        {
          "type": "number"
        },
        {
          "type": "integer"
        }
      ],
      "maxItems": 2,
      "minItems": 2,
      "readOnly": true,
      "type": "array"
    ],
    "step": {
      "anyOf": [
        {
          "type": "integer"
        },
        {
          "type": "number"
        }
      ],
      "description": "Step value across the defined range",
      "readOnly": true
    },
    "id": {
      "description": "Instance ID of this specific resource",
      "maxLength": 64,
      "readOnly": true,
      "type": "string"
"if": {
  "description": "The interface set supported by this resource",
  "items": {
    "enum": [
      "oic.if.baseline",
      "oic.if.ll",
      "oic.if.b",
      "oic.if.lb",
      "oic.if.rw",
      "oic.if.z",
      "oic.if.s",
    ],
    "type": "string"
  }
},
"minItems": 1,
"readOnly": true,
"type": "array"
}

B.111.5 Property Definition

Table 459 The properties definitions of the resource

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>userid</td>
<td>string</td>
<td>Yes</td>
<td>Read Only</td>
<td>ID of a patient/user of healthcare devices</td>
</tr>
<tr>
<td>rt</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>Resource Type</td>
</tr>
<tr>
<td>if</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>The interface set supported by this resource</td>
</tr>
<tr>
<td>n</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Friendly name of the resource</td>
</tr>
<tr>
<td>value</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>Read Write</td>
<td>The value sensed or actuated by this Resource</td>
</tr>
<tr>
<td>id</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Instance ID of this specific resource</td>
</tr>
<tr>
<td>precision</td>
<td>number</td>
<td>No</td>
<td>Read Only</td>
<td>Accuracy granularity of the exposed value</td>
</tr>
<tr>
<td>range</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>The valid range for the value Property</td>
</tr>
<tr>
<td>-------</td>
<td>------------------</td>
<td>----</td>
<td>-----------</td>
<td>---------------------------------------</td>
</tr>
<tr>
<td>step</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>Step value across the defined range</td>
</tr>
</tbody>
</table>

B.111.6 CRUDN behaviour

### Table 460 The CRUDN operations of the resource

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/UserIDResURI</td>
<td>get</td>
<td></td>
<td></td>
<td></td>
<td>observe</td>
</tr>
</tbody>
</table>

B.112 UV Radiation

#### B.112.1 Introduction

This resource specifies UV radiation measurement. The measurement is the current measured UV Index

#### B.112.2 Example URI

/UVRadiationResURI

#### B.112.3 Resource Type

The resource type (rt) is defined as: ['oic.r.sensor.radiation.uv'].

#### B.112.4 Swagger2.0 Definition

```json
{
  "swagger": "2.0",
  "info": {
    "title": "UV Radiation",
    "version": "v1.1.0-20160519",
    "license": {
      "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
      "x-description": "Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.

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    }
  },
  "schemes": ["http"],
  "consumes": ["application/json"],
  "produces": ["application/json"],
  "paths": {
    "/UVRadiationResURI": {
      "get": {
        "description": "This resource specifies UV radiation measurement. The measurement is the current measured UV Index\nRetrieves the current UV Radiation value\n",
        "parameters": [ {"$ref": "/#parameters/interface"} ]
      }
    }
  }
}
```
"responses": {
  "200": {
    "description": "",
    "x-example": {
      "rt": ["oic.r.sensor.radiation.uv"],
      "id": "unique_example_id",
      "measurement": 3.5
    },
    "schema": { "$ref": "#/definitions/UVRadiation" }
  }
},
"parameters": {
  "interface": {
    "in": "query",
    "name": "if",
    "type": "string",
    "enum": ["oic.if.s", "oic.if.baseline"]
  }
},
"definitions": {
  "UVRadiation": {
    "properties": {
      "rt": {
        "description": "Resource Type",
        "items": {
          "maxLength": 64,
          "type": "string"
        },
        "minItems": 1,
        "readOnly": true,
        "type": "array"
      },
      "precision": {
        "description": "Accuracy granularity of the exposed value",
        "readOnly": true,
        "type": "number"
      },
      "value": {
        "anyOf": [
          {
            "type": "array"
          },
          {
            "type": "string"
          },
          {
            "type": "boolean"
          },
          {
            "type": "integer"
          },
          {
            "type": "number"
          },
          {
            "type": "object"
          }
        ],
        "description": "The value sensed or actuated by this Resource"
      }
    }
  }
}
"n": {
  "description": "Friendly name of the resource",
  "maxLength": 64,
  "readOnly": true,
  "type": "string"
},

"range": {
  "description": "The valid range for the value Property",
  "items": [
    "anyOf": [
      { "type": "number" },
      { "type": "integer" }
    ]
  ],
  "maxItems": 2,
  "minItems": 2,
  "readOnly": true,
  "type": "array"
},

"measurement": {
  "description": "The measured UV Index",
  "readOnly": true,
  "type": "number"
},

"step": {
  "anyOf": [
    { "type": "integer" },
    { "type": "number" }
  ],
  "description": "Step value across the defined range",
  "readOnly": true
},

"id": {
  "description": "Instance ID of this specific resource",
  "maxLength": 64,
  "readOnly": true,
  "type": "string"
},

"if": {
  "description": "The interface set supported by this resource",
  "items": [
    "enum": [
      "oic.if.baseline",
      "oic.if.ll",
      "oic.if.b",
      "oic.if.lb",
      "oic.if.rw",
      "oic.if.r",
      "oic.if.a",
      "oic.if.s"
    ],
    "type": "string"
B.112.5 Property Definition

Table 461 The properties definitions of the resource

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>if</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>The interface set supported by this resource</td>
</tr>
<tr>
<td>precision</td>
<td>number</td>
<td>No</td>
<td>Read Only</td>
<td>Accuracy granularity of the exposed value</td>
</tr>
<tr>
<td>id</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Instance ID of this specific resource</td>
</tr>
<tr>
<td>value</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>Read Write</td>
<td>The value sensed or actuated by this Resource</td>
</tr>
<tr>
<td>n</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Friendly name of the resource</td>
</tr>
<tr>
<td>rt</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>Resource Type</td>
</tr>
<tr>
<td>measurement</td>
<td>number</td>
<td>Yes</td>
<td>Read Only</td>
<td>The measured UV Index</td>
</tr>
<tr>
<td>range</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>The valid range for the value Property</td>
</tr>
<tr>
<td>step</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>Step value across the defined range</td>
</tr>
</tbody>
</table>

B.112.6 CRUDN behaviour

Table 462 The CRUDN operations of the resource

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/UVRadiationResURI</td>
<td>get</td>
<td></td>
<td></td>
<td></td>
<td>observe</td>
</tr>
</tbody>
</table>
B.113 Value Conditional

B.113.1 Introduction

This resource specifies conditions that can be applied to an observed value in any Resource. These conditions are applied by the server exposing the Resource to any generated notifications because of subscriptions to the Resource. A unicast RETRIEVE to the Resource will receive the most recent value; which may not be the most recent notified value. A server exposes this Resource in association with the Resource conveying the observed value. This is done by means of a new Resource instance with an RT of ["oic.r.<thing being observed>", "oic.r.value.conditional"], e.g ["oic.r.temperature", "oic.r.value.conditional"]. Please see Section 5.7.1 of the published OCF Resource Type Specification for more details.

The threshold is the amount by which the thing being observed must change before a notification is sent. The minnotifyperiod is the minimum time in ms (milliseconds) that must elapse before a notification is sent. If the maxnotifyperiod (time in ms (milliseconds)) elapses then a notification must be sent. The maxnotifyperiod timer resets each time a notification is sent. A value of '0' for any of threshold, minnotifyperiod or maxnotifyperiod means that the capability is supported but not active.

B.113.2 Example URI

/ValueConditionalResURI

B.113.3 Resource Type

The resource type (rt) is defined as: ["oic.r.value.conditional"].

B.113.4 Swagger2.0 Definition

```json
{
  "swagger": "2.0",
  "info": {
    "title": "Value Conditional",
    "version": "v1.1.0-20161031",
    "license": {
      "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
      "x-description": "Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:
1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.

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    }
  },
  "schemes": ["http"],
  "consumes": ["application/json"],
  "produces": ["application/json"],
  "paths": {
    "/ValueConditionalResURI" : {
      "get": {
        "description": "This resource specifies conditions that can be applied to an observed value in any Resource. These conditions are applied by the server exposing the Resource to any generated notifications because of subscriptions to the Resource. A unicast RETRIEVE to the Resource will receive the most recent value; which may not be the most recent notified value. A server exposes the Resource in association with the Resource conveying the observed value. This is done by means of a new Resource instance with an RT of ["oic.r.<thing being observed>", "oic.r.value.conditional"], e.g ["oic.r.temperature", "oic.r.value.conditional"]. Please see Section 5.7.1 of the published OCF Resource Type Specification for more details.

The threshold is the amount by which the thing being observed must change before a notification is sent. The minnotifyperiod is the minimum time in ms (milliseconds) that must elapse before a notification is sent. If the maxnotifyperiod (time in ms (milliseconds)) elapses then a notification must be sent. The maxnotifyperiod timer resets each time a notification is sent. A value of '0' for any of threshold, minnotifyperiod or maxnotifyperiod means that the capability is supported but not active.

B.113 Value Conditional

B.113.1 Introduction

This resource specifies conditions that can be applied to an observed value in any Resource.
These conditions are applied by the server exposing the Resource to any generated notifications because of subscriptions to the Resource. A unicast RETRIEVE to the Resource will receive the most recent value; which may not be the most recent notified value.
A server exposes this Resource in association with the Resource conveying the observed value. This is done by means of a new Resource instance with an RT of ["oic.r.<thing being observed>", "oic.r.value.conditional"], e.g ["oic.r.temperature", "oic.r.value.conditional"]. Please see Section 5.7.1 of the published OCF Resource Type Specification for more details.

The threshold is the amount by which the thing being observed must change before a notification is sent. The minnotifyperiod is the minimum time in ms (milliseconds) that must elapse before a notification is sent. If the maxnotifyperiod (time in ms (milliseconds)) elapses then a notification must be sent. The maxnotifyperiod timer resets each time a notification is sent. A value of '0' for any of threshold, minnotifyperiod or maxnotifyperiod means that the capability is supported but not active.

B.113.2 Example URI

/ValueConditionalResURI

B.113.3 Resource Type

The resource type (rt) is defined as: ["oic.r.value.conditional"].

B.113.4 Swagger2.0 Definition

```
of a new Resource instance with an RT of "oic.r.<thing being observed>", e.g. ["oic.r.temperature", "oic.r.value.conditional"]. Please see Section 5.7.1 of the published OCF Resource Type Specification for more details. The threshold is the amount by which the thing being observed must change before a notification is sent. The minnotifyperiod is the minimum time in ms (milliseconds) that must elapse before a notification is sent. The maxnotifyperiod (time in ms (milliseconds)) elapses then a notification must be sent. The maxnotifyperiod timer resets each time a notification is sent. A value of '0' for any of threshold, minnotifyperiod or maxnotifyperiod means that the capability is supported but not active.

```
"parameters": [ 
    {"$ref": "/#/parameters/interface"}
],
"responses": { 
  "200": { 
    "description": "",
    "x-example": 
    {
      "rt": ["oic.r.value.conditional"],
      "id": "unique_example_id",
      "threshold": 2,
      "minnotifyperiod": 2000,
      "maxnotifyperiod": 5000
    } 
  },
  "schema": { "$ref": "/#/definitions/valueconditional" } 
},

"post": { 
  "description": "body: \n  application/json: \n  { \n    "threshold": 2, \n    "minnotifyperiod": 1500 \n  },
  "parameters": [ 
    {"$ref": "/#/parameters/interface"}
  ],
  "responses": { 
    "200": { 
      "description": "",
      "x-example": 
      {
        "threshold": 2,
        "minnotifyperiod": 1500
      } 
    },
    "schema": { "$ref": "/#/definitions/valueconditional" } 
  },
},

"interface": { 
  "in": "query",
  "name": "if",
  "type": "string",
  "enum": ["oic.if_rw", "oic.if_baseline"]
},

"definitions": { 
  "valueconditional": {
    "properties": { 
      "rt": {
        "description": "Resource Type",
        "items": {
          "maxLength": 64,
          "type": "string"
        },
        "minItems": 1,
        "readOnly": true,
        "type": "array"
      } 
    } 
  } 
} 
```
"maxnotifyperiod": {
  "description": "Maximum elapsed time in ms before a notification must be sent.",
  "minimum": 0,
  "type": "integer"
},

"n": {
  "description": "Friendly name of the resource",
  "maxLength": 64,
  "readOnly": true,
  "type": "string"
},

"minnotifyperiod": {
  "description": "Minimum elapsed time in ms before a notification is sent.",
  "minimum": 0,
  "type": "integer"
},

"threshold": {
  "description": "Amount by which the measured value must change before a notification is sent.",
  "minimum": 0,
  "type": "number"
},

"id": {
  "description": "Instance ID of this specific resource",
  "maxLength": 64,
  "readOnly": true,
  "type": "string"
},

"if": {
  "description": "The interface set supported by this resource",
  "items": [
    "enum": [
      "oic.if.baseline",
      "oic.if.ll",
      "oic.if.b",
      "oic.if.lb",
      "oic.if.rw",
      "oic.if.r",
      "oic.if.s",
      "oic.if.a"
    ],
    "type": "string"
  ],
  "minItems": 1,
  "readOnly": true,
  "type": "array"
},

"anyOf": ["threshold"]}
B.113.5 Property Definition

Table 463 The properties definitions of the resource

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>id</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Instance ID of this specific resource</td>
</tr>
<tr>
<td>if</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>The interface set supported by this resource</td>
</tr>
<tr>
<td>maxnotifyperiod</td>
<td>integer</td>
<td>Yes</td>
<td>Read Write</td>
<td>Maximum elapsed time in ms before a notification must be sent</td>
</tr>
<tr>
<td>threshold</td>
<td>number</td>
<td>No</td>
<td>Read Write</td>
<td>Amount by which the measured value must change before a notification is sent</td>
</tr>
<tr>
<td>minnotifyperiod</td>
<td>integer</td>
<td>No</td>
<td>Read Write</td>
<td>Minimum elapsed time in ms before a notification is sent</td>
</tr>
<tr>
<td>rt</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>Resource Type</td>
</tr>
<tr>
<td>n</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Friendly name of the resource</td>
</tr>
</tbody>
</table>

B.113.6 CRUDN behaviour

Table 464 The CRUDN operations of the resource

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/ValueConditionalResURI</td>
<td>get</td>
<td>post</td>
<td></td>
<td></td>
<td>observe</td>
</tr>
</tbody>
</table>
B.114 Vehicle Connector

B.114.1 Introduction

This resource describes the attributes associated with an electric vehicle charging connector. The connected state is a boolean indicating the status of the connector (False = disconnected, True = connected). The rated charging capacity and rated discharging capacity are in Amps (A).

B.114.2 Example URI

/vehicleconnectorresuri

B.114.3 Resource Type

The resource type (rt) is defined as: ['oic.r.vehicle.connector'].

B.114.4 Swagger2.0 Definition

```
{
    "swagger": "2.0",
    "info": {
        "title": "Vehicle Connector",
        "version": "v1.1.0-20170815",
        "license": {
            "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved."
        }
    },
    "schemes": ["http"],
    "consumes": ["application/json"],
    "produces": ["application/json"],
    "paths": {
        "/vehicleconnectorresuri": {
            "get": {
                "description": "This resource describes the attributes associated with an electric vehicle charging connector. The connected state is a boolean indicating the status of the connector (False = disconnected, True = connected). The rated charging capacity and rated discharging capacity are in Amps (A). Retrieves the state of the vehicle connector."
            }
        }
    },
    "parameters": {
        "$ref": "#/parameters/interface"
    },
    "responses": {
        "200": {
            "description": "",
            "x-example": {
                "rt": ["oic.r.vehicle.connector"],
                "id": "unique_example_id",
                "connected": true,
                "ratedchargingcapacity": 20.0,
                "rateddischargingcapacity": 5.0
            }
        }
    }
}
```
"parameters": {
  "interface": {
    "in": "query",
    "name": "if",
    "type": "string",
    "enum": ["oic.if.s", "oic.if.baseline"]
  }
},
"definitions": {
  "VehicleConnector": {
    "properties": {
      "rt": {
        "description": "Resource Type",
        "items": {
          "maxLength": 64,
          "type": "string"
        },
        "minItems": 1,
        "readOnly": true,
        "type": "array"
      },
      "precision": {
        "description": "Accuracy granularity of the exposed value",
        "readOnly": true,
        "type": "number"
      },
      "value": {
        "anyOf": [
          {
            "type": "array"
          },
          {
            "type": "string"
          },
          {
            "type": "boolean"
          },
          {
            "type": "integer"
          },
          {
            "type": "number"
          },
          {
            "type": "object"
          }
        ],
        "description": "The value sensed or actuated by this Resource"
      },
      "n": {
        "description": "Friendly name of the resource",
        "maxLength": 64,
        "readOnly": true,
        "type": "string"
      },
      "range": {
        "description": "The valid range for the value Property",
        "items": {
          "anyOf": ["oic.if.s", "oic.if.baseline"]
        }
      }
    }
  }
}
"connected": {
"description": "The connection state.",
"readOnly": true,
"type": "boolean"
},
"ratedchargingcapacity": {
"description": "The rated charging capacity in Amps (A).",
"readOnly": true,
"type": "number"
},
"rateddischargingcapacity": {
"description": "The rated discharging capacity in Amps (A).",
"readOnly": true,
"type": "number"
},
"step": {
"anyOf": [
"type": "integer",
"type": "number"
],
"description": "Step value across the defined range",
"readOnly": true
},
"id": {
"description": "Instance ID of this specific resource",
"maxLength": 64,
"readOnly": true,
"type": "string"
},
"if": {
"description": "The interface set supported by this resource",
"items": {
"enum": [
"oic.if.baseline",
"oic.if.11",
"oic.if.b",
"oic.if.lb",
"oic.if.rw",
"oic.if.r",
"oic.if.a",
"oic.if.s"
],
"type": "array"}
### B.114.5 Property Definition

#### Table 465 The properties definitions of the resource

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>rt</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>Resource Type</td>
</tr>
<tr>
<td>precision</td>
<td>number</td>
<td>No</td>
<td>Read Only</td>
<td>Accuracy granularity of the exposed value</td>
</tr>
<tr>
<td>n</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Friendly name of the resource</td>
</tr>
<tr>
<td>range</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>The valid range for the value Property</td>
</tr>
<tr>
<td>ratedchargingcapacity</td>
<td>number</td>
<td>No</td>
<td>Read Only</td>
<td>The rated charging capacity in Amps (A).</td>
</tr>
<tr>
<td>rateddischargingcapacity</td>
<td>number</td>
<td>No</td>
<td>Read Only</td>
<td>The rated discharging capacity in Amps (A).</td>
</tr>
<tr>
<td>id</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Instance ID of this specific resource</td>
</tr>
<tr>
<td>step</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>Step value across the defined range</td>
</tr>
<tr>
<td>connected</td>
<td>boolean</td>
<td>Yes</td>
<td>Read Only</td>
<td>The connection state.</td>
</tr>
<tr>
<td>value</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>Read Write</td>
<td>The value sensed or actuated by this Resource</td>
</tr>
</tbody>
</table>
B.114.6 CRUDN behaviour

Table 466 The CRUDN operations of the resource

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/VehicleConnectorResURI</td>
<td></td>
<td>get</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

B.115 Water Sensor

B.115.1 Introduction

This resource describes whether water has been sensed or not. The value is a boolean. A value of 'true' means that water has been sensed. A value of 'false' means that water not been sensed.

B.115.2 Example URI

/WaterResURI

B.115.3 Resource Type

The resource type (rt) is defined as: ['oic.r.sensor.water'].

B.115.4 Swagger2.0 Definition

```json
{
  "swagger": "2.0",
  "info": {
    "title": "Water Sensor",
    "version": "v1.1.0-20160519",
    "license": {
      "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
      "x-description": "Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions are met:
1. Redistributions of source code must retain the above copyright notice, this list of conditions and
the following disclaimer.
2. Redistributions in binary form must reproduce the above
copyright notice, this list of conditions and the following disclaimer in the documentation and/or
other materials provided with the distribution.
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LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR
WARRANTIES OF NON-INFRINGEMENT, ARE DISCLAIMED.
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Foundation, INC. OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL,
EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS
OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)\nON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR
OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY
OF SUCH DAMAGE."
    }
  },
  "schemes": ["http"],
  "consumes": ["application/json"],
  "produces": ["application/json"],
  "paths": {
    "/WaterResURI": {
      "get": {
        "description": "This resource describes whether water has been sensed or not. The value is a boolean. A value of 'true' means that water has been sensed. A value of 'false' means that water not been sensed."
      }
    }
  }
}
```
"200": {
  "description": "",
  "x-example": {
    "rt": ["oic.r.sensor.water"],
    "id": "unique_example_id",
    "value": true
  }
},
"schema": { "$ref": "#/definitions/Water" }
},
"parameters": {
  "interface": {
    "in": "query",
    "name": "if",
    "type": "string",
    "enum": ["oic.if.s", "oic.if.baseline"]
  }
},
"definitions": {
  "Water": {
    "properties": {
      "rt": {
        "description": "Resource Type",
        "items": {
          "maxLength": 64,
          "type": "string"
        },
        "minItems": 1,
        "readOnly": true,
        "type": "array"
      },
      "precision": {
        "description": "Accuracy granularity of the exposed value",
        "readOnly": true,
        "type": "number"
      },
      "value": {
        "description": "true = sensed, false = not sensed.",
        "readOnly": true,
        "type": "boolean"
      },
      "n": {
        "description": "Friendly name of the resource",
        "maxLength": 64,
        "readOnly": true,
        "type": "string"
      },
      "range": {
        "description": "The valid range for the value Property",
        "items": {
          "anyOf": [
            { "type": "number" },
            { "type": "integer" }
          ]
        },
        "type": "array"
      }
    }
  }
}
B.115.5 Property Definition

Table 467 The properties definitions of the resource

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>id</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Instance ID of this specific resource</td>
</tr>
<tr>
<td>precision</td>
<td>number</td>
<td>No</td>
<td>Read Only</td>
<td></td>
</tr>
</tbody>
</table>

```json
{
  "maxItems": 2,
  "minItems": 2,
  "readOnly": true,
  "type": "array"
}
"step": {
  "anyOf": [
    { "type": "integer" }
  ]
  "description": "Step value across the defined range",
  "readOnly": true
}
"id": {
  "description": "Instance ID of this specific resource",
  "maxLength": 64,
  "readOnly": true,
  "type": "string"
}
"if": {
  "description": "The interface set supported by this resource",
  "items": [
    "oic.if.baseline",
    "oic.if.1l",
    "oic.if.b",
    "oic.if.lb",
    "oic.if.rw",
    "oic.if.x",
    "oic.if.a",
    "oic.if.s"
  ],
  "type": "string"
}
"minItems": 1,
"readOnly": true,
"type": "array"

"type": "object"
,"required": ["value"]
"required": ["value"]
```
### B.115.6 CRUDN behaviour

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/WaterResURI</td>
<td>get</td>
<td></td>
<td></td>
<td></td>
<td>observe</td>
</tr>
</tbody>
</table>

### B.116 Weight

#### B.116.1 Introduction
This resource describes the properties associated with weight of an object.

The unit is a single value that is one of kg, g, lb or oz.

If the unit Property is missing the default is kilograms [kg].

The unit Property is a read-only value that is provided by the server.

When range (from oic.r.baseresource) is omitted the default is 0 to +MAXFLOAT.

#### B.116.2 Example URI
/WeightResURI

#### B.116.3 Resource Type
The resource type (rt) is defined as: ['oic.r.weight'].

#### B.116.4 Swagger2.0 Definition

```json
{
  ".swagger": "2.0",
  "info": {
    "title": "Weight",
    "version": "v1.1.0-20160519",
    "license": {
      "name": "copyright 2016-2017 Open Connectivity Foundation, Inc. All rights reserved.",
      "x-description": "Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:
      1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
      2. Redistributions in binary form must reproduce the above
```
"schemes": ["http"],
"consumes": ["application/json"],
"produces": ["application/json"],
"paths": {
  "/WeightResURI" : {
    
    "get": {
      "description": "This resource describes the properties associated with weight of an object. The unit is a single value that is one of kg, g, lb or oz. If the unit Property is missing the default is kilograms [kg]. The unit Property is a read-only value that is provided by the server. When range (from oic.r.baseresource) is omitted the default is 0 to +MAXFLOAT. Retrieves weight of an object.",
      "responses": {
        "200": {
          "description": ",
          "x-example": {
            "rt": ["oic.r.weight"],
            "id": "unique_example_id",
            "weight": 80.0,
            "units": "kg"
          }
        },
        "schema": { "$ref": "#/definitions/Weight" } 
      }
    }
  }
},
"parameters": {
  "interface" : {
    "in" : "query",
    "name" : "if",
    "type" : "string",
    "enum" : ["oic.if.s", "oic.if.baseline"]
  }
},
"definitions": {
  "Weight": {
    "properties": {
      "rt": {
        "description": "Resource Type",
        "items": {
          "maxLength": 64,
          "type": "string"
        },
        "minItems": 1,
        "readOnly": true,
        "type": "array"
      },
      "weight" : {
        "description": "Weight of an object",
        "minimum": 0,
"readOnly": true,
  "type": "number"
},
  "precision": {
    "description": "Accuracy granularity of the exposed value",
    "readOnly": true,
    "type": "number"
  },
  "value": {
    "anyOf": [
      { type: "array" },
      { type: "string" },
      { type: "boolean" },
      { type: "integer" },
      { type: "number" },
      { type: "object" }
    ],
    "description": "The value sensed or actuated by this Resource"
  },
  "n": {
    "description": "Friendly name of the resource",
    "maxLength": 64,
    "readOnly": true,
    "type": "string"
  },
  "units": {
    "description": "Weight unit",
    "enum": [
      "kg",
      "g",
      "lb",
      "oz"
    ],
    "readOnly": true,
    "type": "string"
  },
  "range": {
    "description": "The valid range for the value Property",
    "items": {
      "anyOf": [
        { type: "number" },
        { type: "integer" }
      ],
      "maxItems": 2,
Table 469 The properties definitions of the resource

<table>
<thead>
<tr>
<th>Property name</th>
<th>Value type</th>
<th>Mandatory</th>
<th>Access mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>if</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>The interface set supported by this resource</td>
</tr>
<tr>
<td>rt</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>Resource Type</td>
</tr>
<tr>
<td>precision</td>
<td>number</td>
<td>No</td>
<td>Read Only</td>
<td></td>
</tr>
</tbody>
</table>

B.116.5 Property Definition
<table>
<thead>
<tr>
<th>Property</th>
<th>Type</th>
<th>Access</th>
<th>Read Only</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>range</td>
<td>array: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>The valid range for the value Property</td>
</tr>
<tr>
<td>weight</td>
<td>number</td>
<td>Yes</td>
<td>Read Only</td>
<td>Weight of an object</td>
</tr>
<tr>
<td>step</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>Read Only</td>
<td>Step value across the defined range</td>
</tr>
<tr>
<td>value</td>
<td>multiple types: see schema</td>
<td>No</td>
<td>Read Write</td>
<td>The value sensed or actuated by this Resource</td>
</tr>
<tr>
<td>id</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Instance ID of this specific resource</td>
</tr>
<tr>
<td>n</td>
<td>string</td>
<td>No</td>
<td>Read Only</td>
<td>Friendly name of the resource</td>
</tr>
<tr>
<td>units</td>
<td>string</td>
<td>Yes</td>
<td>Read Only</td>
<td>Weight unit</td>
</tr>
</tbody>
</table>

### B.116.6 CRUDN behaviour

<table>
<thead>
<tr>
<th>Resource</th>
<th>Create</th>
<th>Read</th>
<th>Update</th>
<th>Delete</th>
<th>Notify</th>
</tr>
</thead>
<tbody>
<tr>
<td>/WeightResURI</td>
<td>get</td>
<td></td>
<td></td>
<td></td>
<td>observe</td>
</tr>
</tbody>
</table>